

D-415

Mn1

Instructor: Read aloud each number below.  
As the student hears each number, he is to find that numeral and mark it.

Seven, four, one, nine, two,  
three, eight, five, six

- |    |                         |                         |                         |
|----|-------------------------|-------------------------|-------------------------|
| 1. | 4 <input type="radio"/> | 1 <input type="radio"/> | 7 <input type="radio"/> |
| 2. | 8 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> |
| 3. | 3 <input type="radio"/> | 1 <input type="radio"/> | 2 <input type="radio"/> |
| 4. | 2 <input type="radio"/> | 9 <input type="radio"/> | 8 <input type="radio"/> |
| 5. | 2 <input type="radio"/> | 1 <input type="radio"/> | 4 <input type="radio"/> |
| 6. | 2 <input type="radio"/> | 4 <input type="radio"/> | 3 <input type="radio"/> |
| 7. | 9 <input type="radio"/> | 3 <input type="radio"/> | 8 <input type="radio"/> |
| 8. | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |
| 9. | 6 <input type="radio"/> | 9 <input type="radio"/> | 3 <input type="radio"/> |

Choose the numeral that means the same as each word.

1. seven                      7 ☐    6 ☐    3 ☐

2. nine                      6 ☐    9 ☐    8 ☐

3. two                      3 ☐    4 ☐    2 ☐

4. five                      5 ☐    8 ☐    4 ☐

5. eight                      9 ☐    8 ☐    3 ☐

6. one                      4 ☐    2 ☐    1 ☐

7. three                      3 ☐    6 ☐    2 ☐

8. six                      4 ☐    6 ☐    7 ☐

9. four                      5 ☐    2 ☐    4 ☐

D-417

Mn3

1.  $5 + 1 = ?$

5 ☐ 4 ☐ 6 ☐

2.  $9 + 7 = ?$

16 ☐ 17 ☐ 18 ☐

3.  $8 + 7 = ?$

14 ☐ 15 ☐ 16 ☐

4.  $6 + 6 = ?$

8 ☐ 7 ☐ 12 ☐

5.  $13 + 2 = ?$

15 ☐ 5 ☐ 11 ☐

6.  $8 + 4 = ?$

11 ☐ 12 ☐ 13 ☐

7.  $2 + 9 = ?$

10 ☐ 12 ☐ 11 ☐

8.  $4 + 7 = ?$

11 ☐ 12 ☐ 13 ☐

9.  $8 + 5 = ?$

15 ☐ 13 ☐ 16 ☐

10.  $9 + 5 = ?$

15 ☐ 16 ☐ 14 ☐

D-418

Mn4

- |     |              |                          |                          |                          |
|-----|--------------|--------------------------|--------------------------|--------------------------|
| 1.  | $9 - 8 = ?$  | 17 <input type="radio"/> | 3 <input type="radio"/>  | 1 <input type="radio"/>  |
| 2.  | $8 - 3 = ?$  | 5 <input type="radio"/>  | 3 <input type="radio"/>  | 11 <input type="radio"/> |
| 3.  | $3 - 2 = ?$  | 5 <input type="radio"/>  | 1 <input type="radio"/>  | 4 <input type="radio"/>  |
| 4.  | $6 - 2 = ?$  | 5 <input type="radio"/>  | 8 <input type="radio"/>  | 4 <input type="radio"/>  |
| 5.  | $4 - 1 = ?$  | 3 <input type="radio"/>  | 5 <input type="radio"/>  | 4 <input type="radio"/>  |
| 6.  | $5 - 4 = ?$  | 2 <input type="radio"/>  | 1 <input type="radio"/>  | 9 <input type="radio"/>  |
| 7.  | $7 - 4 = ?$  | 11 <input type="radio"/> | 2 <input type="radio"/>  | 3 <input type="radio"/>  |
| 8.  | $10 - 3 = ?$ | 7 <input type="radio"/>  | 13 <input type="radio"/> | 8 <input type="radio"/>  |
| 9.  | $8 - 6 = ?$  | 1 <input type="radio"/>  | 2 <input type="radio"/>  | 14 <input type="radio"/> |
| 10. | $9 - 2 = ?$  | 11 <input type="radio"/> | 5 <input type="radio"/>  | 7 <input type="radio"/>  |



D-419

Mn5

1.  $9 \times 8 = ?$  17 ☐ 1 ☐ 72 ☐
2.  $7 \times 9 = ?$  63 ☐ 16 ☐ 54 ☐
3.  $7 \times 8 = ?$  54 ☐ 56 ☐ 15 ☐
4.  $4 \times 7 = ?$  11 ☐ 27 ☐ 28 ☐
5.  $3 \times 1 = ?$  3 ☐ 4 ☐ 1 ☐
6.  $6 \times 6 = ?$  12 ☐ 36 ☐ 42 ☐
7.  $6 \times 9 = ?$  45 ☐ 15 ☐ 54 ☐
8.  $7 \times 7 = ?$  49 ☐ 63 ☐ 14 ☐
9.  $8 \times 10 = ?$  0 ☐ 80 ☐ 18 ☐
10.  $9 \times 9 = ?$  18 ☐ 72 ☐ 81 ☐

D-420

Mn6

1.  $27 \div 3 = ?$  24 ☐ 8 ☐ 9 ☐

2.  $32 \div 4 = ?$  8 ☐ 7 ☐ 28 ☐

3.  $45 \div 9 = ?$  8 ☐ 5 ☐ 6 ☐

4.  $48 \div 8 = ?$  7 ☐ 8 ☐ 6 ☐

5.  $64 \div 8 = ?$  8 ☐ 6 ☐ 9 ☐

6.  $49 \div 7 = ?$  6 ☐ 7 ☐ 8 ☐

7.  $3 \div 1 = ?$  4 ☐ 1 ☐ 3 ☐

8.  $63 \div 7 = ?$  9 ☐ 8 ☐ 7 ☐

9.  $54 \div 6 = ?$  5 ☐ 9 ☐ 7 ☐

10.  $6 \div 6 = ?$  12 ☐ 6 ☐ 1 ☐

D-189

- (a)  $\bar{A}, \bar{B}, \bar{\Delta}$   
(b) I, C, M  
(c) 1, 2, 3, 4  
(d)  $\theta, l, \Pi$

1. Which of the above numeration systems did the Greeks use?

- ☐ a ☐ b ☐ c ☐ d

2. Which of the above numeration systems did the Egyptians use?

- ☐ a ☐ b ☐ c ☐ d

3. Which of the above numeration systems did the Romans use?

- ☐ a ☐ b ☐ c ☐ d

4. Which of the above is the Decimal system?

- ☐ a ☐ b ☐ c ☐ d

5. What is the Roman numeral for 1959?

- ☐ MCMLIX ☐ MDMLX ☐ MCMLXIX

6. What is the decimal number for MDCCLXIV?

- ☐ 1664 ☐ 1764 ☐ 1759

7. Which Roman numbers have a smaller numeral before a larger numeral?

(More than one choice is correct.)

- ☐ XIV ☐ XL ☐ MCLX  
☐ XV ☐ LX ☐ XCL  
☐ CL ☐ MCM

D211

1) In 230,746 what numeral represents ten thousands?

- ☐ 7      ☐ 2      ☐ 3

2) The 3 in 35 represents how many times as much as the 3 in 23?

- ☐ 10      ☐ 12      ☐ 5

3) Four thousand eighteen is another way of writing

- ☐ 418      ☐ 40018      ☐ 4018

4) 3 hundreds, 6 tens, 2 ones is the same as

- ☐ 3620      ☐ 362      ☐ 3062

5) 7,000,030,007 is the same as

- ☐ 7 billions, 30 thousands, 7 ones  
☐ 7 millions, 30 thousands, 7 ones  
☐ 7 billions, 30 millions, 7 ones

6) Using the numerals 8, 4, 6, 1, and 9 once each and putting 9 in the hundreds place, what is the largest number that can be written?

- ☐ 68,914      ☐ 96,841      ☐ 86,941

7) Which of these numbers is ten thousand more than 374,058?

- ☐ 374,158      ☐ 384,058      ☐ 375,058

8) If you use four numerals, one of which is zero (0) to write a whole number, in which place would you write the zero (0) to represent the largest number?

- ☐ ones      ☐ tens      ☐ hundreds

D232

1) Which number was rounded correctly to the nearest hundred?

- ☐ 475-400    ☐ 325-400    ☐ 97-100

2) These numbers were rounded to the nearest hundred. Which is wrong?

- ☐ 689-700    ☐ 427-500    ☐ 34-0

3) A number is 42,000 after it is rounded to the nearest thousand. What is the smallest value this number could have before rounding?

- ☐ 41,499    ☐ 41,500    ☐ 41,600

4) In a recent year the total operating revenue for an airline was \$8,575,177,741. Which of these numbers is the closest approximate expression for this amount?

- ☐ \$8.6 billion  
☐ \$8.6 million  
☐ \$8.5 billion

5) The net income for a certain toy manufacturer in a recent year was \$11,250,940. Which of these is the closest approximate expression for this number?

- ☐ \$11  $\frac{1}{2}$  million  
☐ \$11  $\frac{1}{4}$  million  
☐ \$11  $\frac{1}{4}$  billion



1. Add and express in digits.

3 hundreds, 7 tens, 8 ones

2 hundreds, 5 tens, 3 ones

☐ 621      ☐ 631      ☐ 531

2. Which is the correct way to name 328  
for this subtraction problem:  $328 - 174$ ?

☐ 2 hundreds, 12 tens, 8 ones  
☐ 2 hundreds, 11 tens, 18 ones  
☐ 3 hundreds, 2 tens, 8 ones

3. Which is the correct way to name 501  
for this subtraction problem:  $501 - 263$ ?

☐ 4 hundreds, 9 tens, 11 ones  
☐ 5 hundreds, 0 tens, 1 ones  
☐ 4 hundreds, 10 tens, 1 ones

4. Rename if necessary and find the  
difference.

$600 - 6$  hundreds, 0 tens, 0 ones

$242 - 2$  hundreds, 4 tens, 2 ones

☐ 368      ☐ 358      ☐ 458

5. Which is not a correct way to name  
307?

☐ 20 tens, 17 ones  
☐ 30 tens, 7 ones  
☐ 2 hundreds, 9 tens, 17 ones

6. Which is not a correct way to name  
520?

☐ 4 hundreds, 19 tens, 10 ones  
☐ 5 hundreds, 1 tens, 10 ones  
☐ 52 tens, 0 ones

7. Subtract and express in digits:

$441 - 4$  hundreds, 4 tens, 1 one

$- 392 - 3$  hundreds, 9 tens, 2 ones

☐ 58      ☐ 149      ☐ 49

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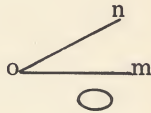
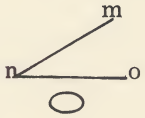


D-28

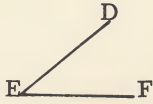
1. What kind of lines are angles made from?

☐ curved ☐ straight

2. Which is angle mno?



3.



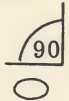
This angle is called \_\_\_\_\_.

☐ FED ☐ EFD ☐ DEF

4. Which of these angles is the biggest?

☐  $90^\circ$  ☐  $30^\circ$  ☐  $0^\circ$ 

5. Which of these is a right angle?



6. How many right angles are in a square?

☐ 1 ☐ 2 ☐ 4

7. How many degrees are in a straight angle?

☐  $180^\circ$  ☐  $90^\circ$  ☐  $0^\circ$

D-29

1. A triangle has \_\_\_\_\_ and \_\_\_\_\_.  
☐ 3 sides 2 angles  
☐ 3 sides 3 angles  
☐ 2 sides 3 angles
2. Squares and rectangles have \_\_\_\_\_ and \_\_\_\_\_.  
☐ 2 sides 4 angles  
☐ 4 sides 2 angles  
☐ 4 sides 4 angles
3. A \_\_\_\_\_ has two equal sides and a \_\_\_\_\_  
has four equal sides.  
☐ square, rectangle  
☐ rectangle, square
4. All of the angles in rectangles or squares  
are \_\_\_\_\_ angles.  
☐ right  
☐  $30^\circ$   
☐ straight
5. \_\_\_\_\_ angles make square corners.  
☐  $0^\circ$   
☐ Right  
☐ Straight
6. A \_\_\_\_\_ is a closed shape.  
☐ triangle  
☐ rectangle  
☐ both

D145

1. Which is correct?

☐ one half  
is striped☐ one third  
is striped

2. Which picture is divided into fourths?

3. If two out of three equal parts are red  
then \_\_\_\_\_ are red.☐ 2 fourths☐ 2 thirds☐ 1 third4. Which picture shows 3 fourths are  
striped?☐☐

5. Which is correct?

☐ 2 fourths  
are starred☐ 2 fourths  
are striped☐ both

D-179

1. Which fractions are equal to one whole?

$$\bigcirc \frac{3}{3} \quad \bigcirc \frac{4}{5} \quad \bigcirc \frac{3}{8} \quad \bigcirc \frac{5}{5} \quad \bigcirc \frac{4}{4}$$

2. Which fractions are equal to one-half?

$$\bigcirc \frac{2}{5} \quad \bigcirc \frac{3}{6} \quad \bigcirc \frac{3}{4} \quad \bigcirc \frac{2}{3} \quad \bigcirc \frac{4}{8}$$

3. Which is correct?

$$\bigcirc \frac{1}{3} = \frac{2}{6}$$

$$\frac{1}{3} = \frac{2}{5} \quad \bigcirc$$

4. Which is correct?

$$\frac{1}{4} = \frac{2}{8} \quad \bigcirc$$

$$\frac{2}{3} = \frac{3}{4} \quad \bigcirc$$

5. Which is arranged from largest to smallest?

$$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5} \quad \bigcirc$$

$$\frac{1}{5}, \frac{1}{4}, \frac{1}{3}, \frac{1}{2} \quad \bigcirc$$

D-109

1. Which pair of numbers fills the blanks?



☐  $\frac{\quad}{5, 3}$  out of  $\frac{\quad}{2, 5}$  are circles.  
☐ 5, 3      ☐ 2, 5      ☐ 3, 5

2. Which fraction expresses 4 out of 9 parts are yellow?

☐  $\frac{4}{9}$       ☐  $\frac{9}{13}$       ☐  $\frac{9}{4}$

3. What is the numerator of the fraction that expresses 5 out of 8 parts are red?

☐ 8      ☐ 5      ☐ 3

4. What is the denominator of the fraction that expresses 2 out of 6 parts are red?

☐ 6      ☐ 2      ☐ 4

5. Which figure pictures the fraction  $\frac{2}{5}$ ?

6. If the numerator of a fraction is 3 and the denominator is 4, we call the fraction \_\_\_\_.

☐ 4 thirds      ☐ 3 fourths      ☐ 3 fifths

7. Which are mixed numbers?

☐  $\frac{4}{5}$     ☐  $8\frac{2}{3}$     ☒  $7\frac{5}{9}$     ☐  $11\frac{1}{2}$     ☐ 6



# MATHEMATICS

## Numbers series

Mn 1

1. There are 9 different numerals that we use to write any number we want. These numerals are 1, 2, 3, 4, 5, 6, 7, 8 and 9.
2. The first numeral is one. "1".
3. Here is the numeral one again. "1".
4. Which numeral is one? (3) (6) (1)
5. Find one again. (4) (1) (9)
6. Which is one? (7) (2) (1)
7. This numeral is two. "2".
8. This is the numeral two again. "2".
9. Which numeral is two? (1) (5) (2)
10. Find two again. (2) (7) (3)
11. Which is two? (4) (3) (2)
12. Find the numeral one. (1) (2)
13. Which is one? (2) (3) (1)
14. Now find the two. (1) (5) (2)
15. Find two again. (7) (2) (1)
16. This numeral is three. "3".
17. This is the numeral three again. "3".





18. Which numeral is three? (3) (2) (1)
19. Find three again. (8) (3) (1)
20. Which is three? (3) (6) (2)
21. 1, 2, 3. Find the numeral one. (1) (2) (3)
22. Which is one? (2) (3) (1)
23. Find the two. (3) (2) (1)
24. Find two again. (2) (1) (3)
25. Which is three? (1) (3) (2)
26. Find three. (1) (2) (3)
27. 1, 2, 3, 4. This is the numeral four. "4".
28. Here is the numeral four again. "4".
29. Which numeral is four? (7) (9) (4)
30. Find four again. (8) (4) (2)
31. Which is four? (8) (4) (6)
32. 1, 2, 3, 4. Find the numeral one. (4) (1) (3)
33. Which is one? (7) (4) (1)
34. Now find the two. (2) (7) (9)
35. Find two again. (1) (2) (4)
36. Which is three? (1) (3) (2)
37. Find three. (3) (4) (8)
38. Now find four. (7) (3) (4)
39. Find four again. (4) (7) (5)
40. 1, 2, 3, 4, 5. This is five. "5".

41. Here is the numeral five again. "5".
42. Which numeral is five? (5) (7) (8)
43. Find five again. (5) (6) (9)
44. Which is five? (8) (3) (5)
45. 1, 2, 3, 4, 5. Find the numeral one. (3) (1) (4)
46. Which is one? (4) (7) (1)
47. Now find the two. (2) (4) (5)
48. Find two again. (7) (2) (8)
49. Which is three? (3) (2) (1)
50. Find three. (5) (8) (3)
51. Now find four. (7) (4) (1)
52. Find four again. (2) (3) (4)
53. Which is five? (7) (6) (5)
54. Find five. (5) (6) (7)
55. 1, 2, 3, 4, 5, 6. This is six. "6".
56. Here is the numeral six again. "6".
57. Which numeral is six? (6) (3) (1)
58. Find six again. (3) (9) (6)
59. Which is six? (3) (6) (7)
60. 1, 2, 3, 4, 5, 6. Find the numeral one. (6) (4) (1)
61. Which is one? (1) (4) (7)
62. Now find the two. (6) (3) (2)
63. Find two again. (1) (2) (3)

- 64. Which is three? (4) (3) (5)
- 65. Find three. (5) (8) (3)
- 66. Find four. (4) (2) (1)
- 67. Find four again. (7) (4) (1)
- 68. Which is five? (9) (6) (5)
- 69. Find five. (5) (4) (3)
- 70. Find the numeral six. (3) (6) (9)
- 71. Find six again. (8) (6) (4)
- 72. 1, 2, 3, 4, 5, 6, 7. This is seven. "7".
- 73. This is the numeral seven again. "7".
- 74. Which numeral is seven? (5) (6) (7)
- 75. Find seven again. (7) (1) (4)
- 76. Which is seven? (8) (7) (9)
- 77. 1, 2, 3, 4, 5, 6, 7. Find the numeral one. (7) (1) (4)

## B

- 78. Which is one? (5) (8) (1)
- 79. Now find the two. (2) (3) (4)
- 80. Find two again. (4) (8) (2)
- 81. Which is three? (8) (3) (6)
- 82. Find three. (3) (2) (1)
- 83. Now find four. (2) (9) (4)
- 84. Find four again. (2) (4) (1)
- 85. Which is five? (6) (5) (7)

86. Find five. (8) (9) (5)
87. Which is the numeral six? (6) (9) (3)
88. Find six again. (3) (9) (6)
89. Find seven. (7) (4) (1)
90. Which is seven? (7) (6) (5)
91. 1, 2, 3, 4, 5, 6, 7, 8. This is the numeral eight. "8".
92. Here is the numeral eight again. "8".
93. Which numeral is eight? (6) (7) (8)
94. Find eight again. (8) (9) (6)
95. Which is eight? (3) (8) (6)
96. 1, 2, 3, 4, 5, 6, 7, 8. Find the numeral one. (8) (7) (1)
97. Which is one? (1) (2) (5)
98. Now find the two. (3) (2) (4)
99. Find two again. (3) (5) (2)
100. Which is three? (8) (3) (4)
101. Find three. (3) (6) (9)
102. Now find four. (6) (7) (4)
103. Find four again. (4) (5) (3)
104. Which is five? (6) (5) (7)
105. Find five. (8) (7) (5)
106. Find the numeral six. (6) (5) (4)
107. Find six again. (5) (3) (6)
108. Find seven. (4) (7) (6)

109. Which is seven? (6) (8) (7)
110. Now find the eight. (8) (3) (6)
111. Find eight again. (6) (7) (8)
112. 1, 2, 3, 4, 5, 6, 7, 8, 9. This is the numeral nine. "9".
113. Here is the numeral nine again. "9".
114. Which numeral is nine? (9) (8) (7)
115. Find nine again. (6) (9) (8)
116. Which is nine? (3) (6) (9)
117. Find the numeral one. (3) (1) (4)
118. Which is one? (3) (2) (1)
119. Now find the two. (2) (1) (3)
120. Find two again. (3) (2) (1)
121. Which is three? (5) (8) (3)
122. Find three. (3) (8) (2)
123. Now find four. (7) (4) (3)
124. Find four again. (5) (6) (4)
125. Which is five? (5) (6) (7)
126. Find five. (9) (8) (5)
127. Find the numeral six. (3) (6) (9)
128. Find six again. (2) (9) (6)
129. Find seven. (8) (7) (9)
130. Which is seven? (7) (6) (5)
131. Now find the eight. (7) (3) (8)



132. Find eight again. (9) (8) (7)
133. Find the numeral nine. (9) (8) (6)
134. Find nine again. (6) (9) (8)
135. 1, 2, 3, 4, 5, 6, 7, 8, 9.
136. Let's review. Find the following numerals. Seven. (5) (7) (8)
137. Three. (3) (2) (4)
138. Eight. (6) (3) (8)
139. Six. (6) (5) (7)
140. Nine. (8) (9) (6)
141. One. (2) (1) (4)
142. Four. (4) (1) (7)
143. Two. (5) (3) (2)
144. Five. (8) (6) (5)
145. Which numeral comes after 1? (1) (2) (3)
146. Which comes after 5? (8) (4) (6)
147. Which comes after 8? (9) (3) (7)
148. What numeral comes after 3? (4) (2) (5)
149. What numeral comes after 6? (8) (5) (7)
150. Which follows 2? (3) (1) (5)
151. Which follows 7? (9) (6) (8)
152. Which comes after 4? (3) (5) (9)
153. Now you know 1, 2, 3, 4, 5, 6, 7, 8, 9.



# MATHEMATICS

## Numbers series

# Mn

2

1. Here is one apple. This numeral stands for one.  
"1".



2. Which numeral stands for the number of apples you see? (1) (2) (3)



3. How many bananas do you see? (2) (1) (4)



4. The numeral 1 can be written as a word, o-n-e. This word is one.

5. The numeral 1 and the word one stand for one object. Which is the numeral 1? (1) (one)

6. Find the word one. (1) (one)

7. Here are two bananas. This numeral stands for two.  
(2)



8. Which numeral stands for the number of bananas you see? (3) (2) (1)

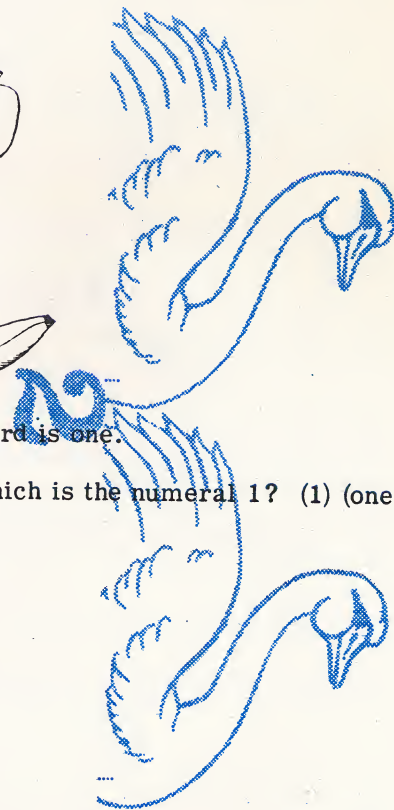


9. How many pears do you see? (2) (1) (4)



10. The numeral 2 can be written as a word, t-w-o. This word is two. Find the word two.  
(2) (two)

11. The numeral 2 and the word two stand for two objects. Find the numeral 2. (2) (two)



12. Now find the word two. (2) (two)

13. How many objects do you see? (1) (2) (3)



14. Find the word that means the same as this numeral. "1". (two) (one)

15. Which of these means the same as the numeral 2? (two) (one)

16. Here are three pears. This numeral stands for three. "3".



17. Which numeral stands for the number of pears you see? (3) (2) (1)



18. How many peaches do you see? (2) (3) (4)



19. The numeral 3 can be written as a word, t-h-r-e-e. This word is three. Find the word three. (3) (three)

20. The numeral 3 and the word three stand for three objects. Find the word three. (3) (three)

21. Now find the numeral 3. (3) (three)

22. How many objects do you see? (3) (2) (1)



23. Which word means the same as the numeral 3? (three) (two) (one)

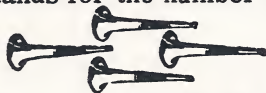
24. Which word means the numeral 1? (one) (three) (two)

25. Choose the correct word which means the same as the numeral 2. (one) (two) (three)

26. Here are four horns. This numeral stands for four. (4).



27. Which numeral stands for the number of horns you see? (3) (4) (2)



28. How many drums do you see? (4) (3) (1)



29. The numeral 4 can be written as a word, f-o-u-r. This word is four. Which of these is the word four? (4) (four)

30. The numeral 4 and the word four stand for four objects. Choose the numeral 4. (4) (four)

31. Which is the word four? (4) (four)

32. How many objects do you see? (3) (4) (2)



33. How many objects are here? (3) (4) (2)



34. Which word means the same as the numeral 4? (four) (three) (one)

35. Choose the one that means the same as the numeral 1. (two) (one) (four)

36. Here are five balls. This numeral stands for five. "5".



37. Which numeral stands for the number of balls you see? (5) (4) (6)



38. How many clowns do you see? (5) (4) (3)



39. The numeral 5 can be written as a word, f-i-v-e. This word is five. Which of these is the word five? (5) (five)

40. The numeral 5 and the word five stand for five objects. Choose the numeral 5. (5) (five)
41. Which is the word five? (5) (five)

42. How many objects do you see? (5) (4) (3)



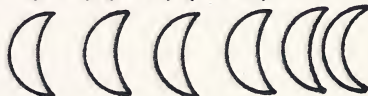
43. How many objects are here? (4) (2) (3)



44. Which word means the same as the numeral 1? (one) (two) (five)

45. Choose the word which means the same as the numeral 4. (five) (four) (three)

46. Here are six moons. This numeral stands for six. "6".



47. Which numeral stands for the number of moons you see? (6) (4) (5)



48. How many stars do you see? (5) (6) (7)



49. The numeral 6 can be written as a word, s-i-x. This word is six. Find the word six. (6) (six)

50. The numeral 6 and the word six stand for six objects. Which is the numeral 6? (6) (six)

51. Find the word six. (6) (six)

52. How many objects do you see? (1) (3) (2)



B

53. How many objects are here? (5) (6) (3)



54. Which word means the same as the numeral 4? (five) (six) (four)

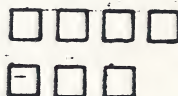
55. Which is the correct word for the numeral 5? (four) (six) (five)



56. Here are seven squares. This numeral stands for seven. "7".



57. Which numeral stands for the number of squares you see? (6) (7) (5)



58. How many circles do you see? (7) (6) (8)



59. The numeral 7 can be written as a word, s-e-v-e-n. This word is seven. Find the word seven. (7) (seven)

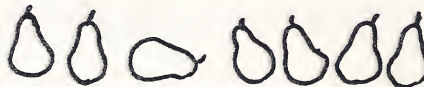
60. The numeral 7 and the word seven stand for seven objects. Which is the numeral 7? (7) (seven)

61. Find the word seven. (7) (seven)

62. How many objects do you see? (6) (7) (5)



63. How many objects are here? (6) (7) (5)



64. Which word means the same as the numeral 3? (three) (five) (seven)

65. Choose the word that means the same as the numeral 6. (two) (six) (one)

66. Here are 8 pennies. This numeral stands for eight. "8".



67. Which numeral stands for the number of pennies you see? (7) (8) (5)



68. How many dimes do you see? (8) (7) (6)



69. The numeral 8 can be written as a word, e-i-g-h-t. This word is eight. Find the word eight. (8) (eight)

70. The numeral 8 and the word eight stand for eight objects. Find the numeral 8. (8) (eight)

71. Now find the word eight. (8) (eight)

72. How many objects do you see? (6) (5) (7)

☐ ☐ ☐  
☐ ☐ ☐ ☐

73. How many objects are here? (5) (6) (7)

☐ ☐ ☐  
☐ ☐

74. Which word means the same as the numeral 7? (six) (seven) (eight)

75. Which means the same as the numeral 6? (six) (seven) (two)

76. Here are 9 pennies. This numeral stands for nine. "9".



77. Which numeral stands for the number of pennies you see? (8) (9) (7)



78. How many dimes do you see? (9) (8) (7)



79. The numeral 9 can be written as a word, n-i-n-e. This word is nine. Find the word nine. (9) (nine)

80. The numeral 9 and the word nine stand for nine objects. Find the numeral 9. (9) (nine)

81. Now find the word nine. (9) (nine)

82. How many objects do you see? (9) (8) (7)

☐ ☐ ☐ ☐  
☐ ☐ ☐ ☐

83. How many objects are here? (8) (4) (6)

☐ ☐ ☐ ☐ ☐ ☐

84. Which word means the same as the numeral 8? (eight) (seven) (three)

85. Choose the word which means the same as this numeral: 2. (one) (two) (six)



86. How many objects are there here?  
(two) (three) (four)



87. How many are there? (seven) (eight) (nine)



88. How many are here? (five) (six) (seven)



89. Count these. (one) (two) (three)



90. Choose the correct word for these.  
(four) (five) (six)



91. Which is correct? (three) (four) (five)



92. How many are here? (seven) (eight) (nine)



93. How many are there? (one) (two) (three)



94. Count these. (seven) (eight) (nine)



95. Now choose the correct word for the numeral 2. (one) (three) (two)

96. "8". (eight) (three) (seven)

97. "4". (eight) (four) (five)

98. "9". (nine) (one) (five)

99. "1". (one) (two) (six)

100. "7". (three) (six) (seven)

101. "3". (three) (two) (eight)

102. "6". (two) (seven) (six)

103. "5". (five) (eight) (four)

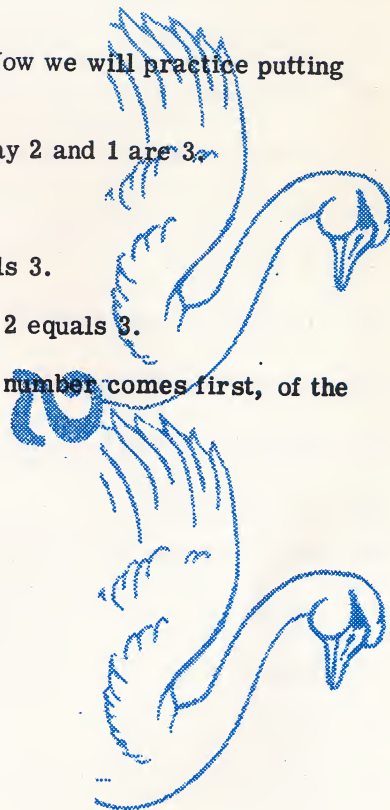
# MATHEMATICS

## Numbers series

# Mn

3

1. You know these numbers: 1, 2, 3, 4, 5, 6, 7, 8 and 9. Now we will practice putting them together. This is adding.
2. If we have 2 things and get 1 more, then we have 3. We say 2 and 1 are 3.
3. Sometimes we say 2 plus 1 is 3.
4. 2 and 1 are 3, or 2 plus 1 is 3. We could say 2 plus 1 equals 3.
5. If we had 1 thing and got 2 more, we would have 3. 1 plus 2 equals 3.
6. 2 plus 1 is 3. 1 plus 2 is 3. It makes no difference which number comes first, of the numbers you add.
7. 1 plus 3 equals the next number in the series, 4.
8. 1 plus 4 is 5. 5 is the next number after 4 in the series.
9. 1 plus 5 is what? (4) (5) (6)
10. What is 1 plus 6? (6) (7) (8)
11. What is 1 plus 7? (7) (8) (9)
12. What is 1 plus 8? (9) (8) (7)
13. 2 plus 2 equals 4. You probably knew this.
14. When you add 2 and 3, it's 5.
15. It's still 5 when you add 3 and 2.
16. 2 and 4 equals 6. 4 and 2 also are 6.
17. 2 plus 4 is what? (3) (5) (6)



18. 3 and 3 are 6, also.
19. What is 3 plus 3? (5) (6) (7)
20. What is 2 plus 4? (6) (7) (8)
21. What is 4 plus 2? (5) (6) (7)
22. 3 and 4 equals 7.
23. What is 4 plus 3? (3) (5) (7)
24. When you add 2 and 5, it's 7, also.
25. What is 5 plus 2? (3) (7) (8)
26. What is 3 plus 4? (7) (8) (9)
27. 6 and 2 are 8.
28. 2 plus 6 is what? (7) (8) (9)
29. 3 and 5 are 8, also.
30. What is 5 plus 3? (7) (8) (9)
31. 4 and 4 are 8.
32. What is 4 plus 4? (7) (8) (9)
33. What is 3 plus 5? (8) (9) (6)
34. What is 6 plus 2? (7) (8) (9)
35. 2 and 7 are 9.
36. What is 7 plus 2? (7) (8) (9)
37. 3 and 6 are 9, also.
38. What is 6 plus 3? (8) (9) (7)
39. 4 and 5 are 9, also.
40. What is 5 plus 4? (9) (8) (7)

41. What is 2 plus 7? (9) (8) (7)
42. What is 3 plus 6? (8) (9) (7)
43. What is 4 plus 5? (8) (9) (7)
44. 2 and 8 are 10.
45. 8 plus 2 is what? (8) (9) (10)
46. 3 and 7 are 10, also.
47. 7 plus 3 is what? (9) (10) (8)
48. 4 and 6 are 10, also.
49. 6 plus 4 is what? (10) (9) (8)
50. 5 plus 5 is what? (8) (9) (10)
51. 3 plus 7 is what? (8) (9) (10)
52. 8 plus 2 is what? (10) (9) (8)
53. 4 plus 6 is what? (9) (10) (8)
54. 5 plus 5 is what? (8) (10) (9)
55. 2 and 9 are 11.
56. 9 plus 2 is what? (9) (10) (11)
57. 3 and 8 are 11, also.
58. What is 8 plus 3? (11) (10) (9)
59. 4 and 7 are 11.
60. What is 7 plus 4? (10) (11) (9)
61. 5 and 6 are 11, also.
62. 6 plus 5 is what? (9) (10) (11)
63. 2 plus 9 is what? (10) (11) (12)

64. 3 plus 8 is what? (11) (10) (9)
65. 4 plus 7 is what? (10) (11) (12)
66. 5 plus 6 is what? (9) (10) (11)
67. 2 and 10 are 12.
68. What is 10 plus 2? (10) (11) (12)
69. 3 and 9 are 12, also.
70. What is 9 plus 3? (12) (11) (10)
71. 4 and 8 are 12.
72. What is 8 plus 4? (12) (11) (10)
73. 5 and 7 are 12, also.
74. What is 7 plus 5? (10) (12) (11)
75. 6 and 6 are what? (10) (11) (12)
76. What is 5 plus 7? (11) (10) (12)
77. What is 4 plus 8? (10) (11) (12)
78. What is 3 plus 9? (12) (11) (10)
79. What is 2 plus 10? (10) (11) (12)
80. What is 5 plus 7? (11) (12) (13)
81. What is 6 plus 6? (11) (12) (13)
82. You remember that 2 and 1 are 3; well, 2 and 11 are 13.
83. What is 11 plus 2? (11) (12) (13)



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84. 3 and 10 are 13.
85. What is 10 plus 3? (11) (13) (9)
86. 4 and 9 are 13, also.
87. What is 9 plus 4? (11) (12) (13)
88. 5 and 8 are 13, also.
89. What is 8 plus 5? (11) (12) (13)
90. 6 and 7 are 13, also.
91. What is 7 plus 6? (13) (12) (11)
92. What is 4 plus 9? (11) (13) (12)
93. What is 2 plus 1? (2) (3) (4)
94. What is 2 plus 11? (12) (13) (14)
95. What is 3 plus 10? (11) (12) (13)
96. What is 5 plus 8? (13) (12) (11)
97. What is 6 plus 7? (12) (13) (14)
98. 2 and 2 are 4.
99. 2 and 12 are 14.
100. What is 12 plus 2? (12) (13) (14)
101. 3 and 1 are 4.
102. 3 and 11 are 14.
103. What is 11 plus 3? (14) (13) (12)
104. 4 and 10 are 14.
105. What is 10 plus 4? (12) (13) (14)

106. 5 and 9 are 14.
107. What is 9 plus 5? (12) (14) (13)
108. 6 and 8 are 14.
109. What is 8 plus 6? (14) (13) (12)
110. 7 plus 7 is what? (12) (13) (14)
111. What is 5 plus 9? (13) (14) (15)
112. What is 3 plus 11? (12) (13) (14)
113. What is 6 plus 8? (13) (14) (15)
114. 2 and 3 are 5.
115. 2 and 13 are 15.
- 
116. What is 3 plus 12? (13) (14) (15)
117. What is 4 plus 11? (15) (14) (13)
118. What is 5 plus 10? (15) (14) (13)
119. 6 and 9 are 15, also.
120. What is 9 plus 6? (13) (14) (15)
121. 7 and 8 are 15, also.
122. What is 8 plus 7? (15) (14) (13)
123. What is 6 plus 9? (14) (15) (16)
124. What is 7 plus 8? (14) (15) (16)
125. 7 and 9 are 16.
126. What is 9 plus 7? (14) (15) (16)
127. What is 8 plus 8? (14) (15) (16)

128. What is 9 plus 7? (16) (15) (14)

129. What is 8 plus 8? (15) (16) (17)

130. 8 and 9 are 17.

131. What is 9 plus 8? (15) (16) (17)

132. What is 8 plus 9? (17) (16) (15)

133. 9 and 9 are 18.

134. What is 9 plus 9? (16) (17) (18)

135. What is 2 plus 3? (4) (5) (6)

136. What is 2 plus 13? (14) (15) (16)

137. What is 2 plus 9? (9) (10) (11)

138. What is 3 plus 9? (12) (13) (14)

139. What is 4 plus 9? (12) (13) (14)

140. What is 5 plus 9? (12) (13) (14)

141. What is 6 plus 9? (15) (16) (17)

142. What is 7 plus 9? (15) (16) (17)

143. What is 8 plus 9? (15) (16) (17)

144. This is another way to show how we can add numbers. 3 plus 3  
is 6. 6 is written below a line.

$$\begin{array}{r} 3 \\ + 3 \\ \hline 6 \end{array}$$

145. 3 plus 4 is what? (6) (7) (8)

146. Here are two ways to add 3 and 4. You can add 3 to 4 across and get 7 or you can add 3 to 4 down and get 7. You can add either way.

$$\begin{array}{r} 3 + 4 = 7 \\ \begin{array}{r} 3 \\ + 4 \\ \hline 7 \end{array} \end{array}$$

147. What is 3 plus 5? (6) (7) (8)

148. What is 3 plus 6? (9) (10) (11)
149. What is 6 plus 3? (9) (10) (11)
150. 6 plus 3 is 9. 3 plus 6 is 9. It makes no difference which number comes first when you add.
151. What is 3 plus 7? (9) (10) (11)
152. What is 3 plus 8? (9) (10) (11)
153. What is 3 plus 9? (11) (12) (13)
154. What is 4 plus 4? (7) (8) (9)
155. What is 4 plus 5? (9) (10) (11)
156. What is 4 plus 6? (9) (10) (11)
157. What is 4 plus 7? (9) (10) (11)
158. What is 4 plus 8? (12) (13) (14)
159. What is 4 plus 9? (12) (13) (14)
160. What is 5 plus 8? (12) (13) (14)
161. What is 5 plus 9? (12) (13) (14)
162. What is 5 plus 7? (10) (11) (12)
163. What is 5 plus 6? (10) (11) (12)
164. What is 5 plus 5? (10) (11) (12)
165. Which of these is the equals sign? (+) (=)
166. Which of these is the plus sign? (=) (+)



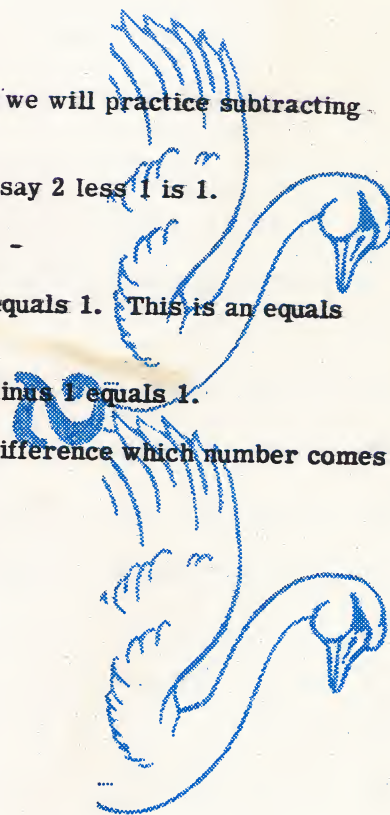
# MATHEMATICS

## Numbers series

# Mn

4

1. You know these numbers: 1, 2, 3, 4, 5, 6, 7, 8, and 9. Now we will practice subtracting them.
2. If we have 2 things and take 1 away, then we have 1. We say 2 less 1 is 1.
3. Sometimes we say 2 minus 1 is 1. This is a minus sign: -
4. 2 less 1 is 1 or 2 minus 1 is 1. We could say 2 minus 1 equals 1. This is an equals sign: =
5. If we had 2 things and took away 1, we would have 1. 2 minus 1 equals 1.
6. 2 minus 1 is not the same as 1 minus 2. It does make a difference which number comes first when you subtract.
7. 3 minus 1 equals the number below it in the series, 2.
8. 4 minus 1 is 3. 3 is one number below 4 in the series.
9. 5 minus 1 is what? (3) (4) (5)
10. 6 minus 1 is what? (3) (4) (5)
11. 7 minus 1 is what? (6) (7) (8)
12. 8 minus 1 is what? (6) (7) (8)
13. 9 minus 1 is what? (6) (7) (8)
14. 4 minus 2 equals 2.
15. 5 less 3 is 2.
16. 6 minus 4 equals 2.



17. 7 minus 5 equals 2.
18. 8 minus 6 is what? (1) (2) (3)
19. 9 minus 7 is what? (1) (2) (3)
20. 10 less 8 is what? (1) (2) (3)
21. 4 less 2 is what? (2) (3) (1)
22. 6 less 4 is what? (2) (3) (1)
23. 5 minus 3 is what? (1) (3) (2)
24. 9 minus 7 is what? (2) (3) (4)
25. 7 minus 5 is what? (4) (3) (2)
26. 8 less 6 is what? (1) (2) (3)
27. 5 less 2 is 3.
28. 6 minus 3 is 3.
29. 7 minus 4 equals 3.
30. 8 minus 5 is what? (1) (2) (3)
31. 9 minus 6 is what? (1) (2) (3)
32. 10 less 7 is what? (1) (2) (3)
33. 6 less 3 is what? (2) (3) (1)
34. 5 less 2 is what? (3) (2) (1)
35. 9 minus 6 is what? (1) (3) (2)
36. 7 minus 4 is what? (3) (1) (2)
37. 10 minus 7 is what? (1) (2) (3)
38. 8 less 5 is what? (3) (2) (1)
39. 6 less 2 is 4.

40. 7 less 3 is 4.
41. 8 minus 4 equals 4.
42. 9 minus 5 is what? (3) (4) (5)
43. 10 minus 6 is what? (3) (4) (5)
44. 8 less 4 is what? (3) (4) (5)
45. 6 less 2 is what? (4) (5) (3)
46. 9 minus 5 is what? (5) (4) (3)
47. 7 minus 3 is what? (5) (4) (3)
48. 10 minus 6 is what? (3) (4) (5)
49. 7 less 2 is 5.
50. 8 less 3 is 5.
51. 9 less 4 is what? (3) (4) (5)
52. 10 minus 5 is what? (3) (4) (5)
53. 9 less 4 is what? (4) (5) (6)
54. 8 less 3 is what? (4) (5) (6)
55. 7 minus 2 is what? (5) (4) (3)
56. 10 minus 5 is what? (5) (4) (3)
57. 8 minus 2 is 6.
58. 9 minus 3 is what? (6) (7) (8)
59. 10 minus 4 is what? (6) (7) (8)
60. 9 minus 3 is what? (5) (6) (7)
61. 8 less 2 is what? (5) (6) (7)

62. 10 less 4 is what? (6) (7) (8)
63. 9 minus 2 equals 7.
64. 10 minus 3 is what? (6) (7) (8)
65. 9 less 2 is what? (6) (7) (8)
66. 10 minus 2 equals 8.
67. What is 10 minus 2? (6) (7) (8)
68. When we have 3 and subtract 2, we get 1.
69. When we have 4 and subtract 3, we get 1.
70. When we have 5 and subtract the number just below it in the series, 4, we get 1.
71. When we have 6 and subtract the number just below it, 5, we get 1.
72. What is 7 minus 6? (1) (2) (3)
73. What is 8 minus 7? (1) (2) (3)
74. What is 9 minus 8? (1) (2) (3)
75. What is 10 minus 9? (3) (2) (1)
76. What is 5 less 4? (3) (2) (1)
77. What is 8 less 7? (3) (1) (2)
78. What is 3 less 2? (3) (2) (1)
79. What is 7 less 6? (3) (2) (1)
80. What is 10 less 9? (1) (2) (3)
81. What is 4 less 3? (3) (2) (1)
82. What is 6 less 5? (5) (7) (1)
83. What is 9 less 8? (8) (6) (1)



84. This is another way to show how to subtract numbers. 4 minus 3 is 1. 1 is written below a line.

$$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$$

85. 4 minus 2 is 2.

86. 5 minus 2 is what? (3) (4) (5)

87. Here are two ways to subtract 5 minus 2. You can subtract 5 minus 2 across and get 3 or you can subtract 5 minus 2 down and get 3. You can subtract either way.

$$\begin{array}{r} 5 - 2 = 3 \\ 5 \\ - 2 \\ \hline 3 \end{array}$$

88. 5 less 3 is what? (2) (3) (4)

89. 6 less 2 is what? (2) (3) (4)

90. 6 less 3 is what? (2) (3) (4)

91. 6 minus 4 is what? (2) (3) (4)

92. 7 minus 2 is what? (4) (5) (6)

93. 7 minus 3 is what? (4) (5) (6)

94. What is 7 minus 4? (2) (3) (4)

95. What is 7 minus 5? (2) (3) (4)

96. What is 8 less 2? (4) (5) (6)

97. What is 8 less 3? (4) (5) (6)

98. What is 8 less 4? (4) (5) (6)

99. What is 8 less 5? (2) (3) (4)

100. What is 8 less 6? (2) (3) (4)

101. What is 9 minus 2? (5) (6) (7)

102. What is 9 minus 3? (5) (6) (7)

103. What is 9 minus 4? (5) (6) (7)



104. What is 9 minus 5? (2) (3) (4)
105. What is 9 minus 6? (2) (3) (4)
106. What is 9 minus 7? (2) (3) (4)
107. What is 9 minus 1? (6) (7) (8)
108. What is 8 minus 1? (6) (7) (8)
109. What is 7 minus 1? (6) (7) (8)
110. What is 6 less 1? (3) (4) (5)
111. What is 5 less 1? (3) (4) (5)
112. What is 4 less 1? (3) (4) (5)
113. What is 3 less 1? (1) (2) (3)
114. What is 2 less 1? (1) (2) (3)
115. 3 less 2 is what? (1) (2) (3)
116. 4 less 3 is what? (1) (2) (3)
117. 5 less 4 is what? (4) (3) (1)
118. 6 less 5 is what? (2) (3) (1)
119. 7 less 6 is what? (6) (1) (7)
120. 8 minus 7 is what? (5) (4) (1)
121. 9 minus 8 is what? (1) (2) (3)
122. 10 minus 9 is what? (1) (2) (3)

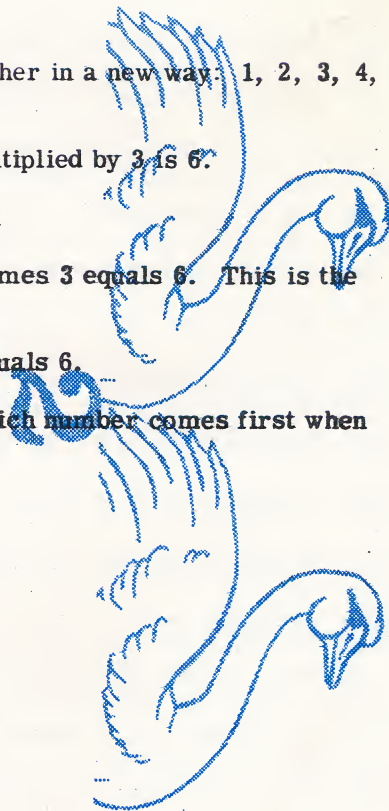
# MATHEMATICS

## Numbers series

# Mn

5

1. In this lesson we will practice putting these numbers together in a new way: 1, 2, 3, 4, 5, 6, 7, 8, and 9. It is called multiplying.
2. If we take 2 things 3 times, then we have 6. We say 2 multiplied by 3 is 6.
3. Sometimes we say 2 times 3 is 6. This is a times sign:  $\times$
4. 2 multiplied by 3 is 6 or 2 times 3 is 6. We could say 2 times 3 equals 6. This is the equals sign:  $=$
5. If we had 3 things 2 times, we would have 6. 3 times 2 equals 6.
6. 2 times 3 is 6. 3 times 2 is 6. It makes no difference which number comes first when you multiply.
7. 2 multiplied by 2 is 4.
8. When you multiply 2 by 4, it's 8.
9. It's still 8 when you multiply 4 by 2.
10. 2 times 5 equals 10. 5 times 2 also is 10.
11. 2 times 5 is what? (4) (8) (10)
12. 2 multiplied by 6 is 12.
13. What is 6 times 2? (8) (10) (12)
14. 2 times 7 equals 14.
15. What is 7 times 2? (10) (12) (14)
16. 2 multiplied by 8 is 16.



17. What is 8 multiplied by 2? (12) (14) (16)
18. 2 times 9 is 18.
19. What is 9 times 2? (14) (16) (18)
20. What is 5 times 2? (8) (10) (12)
21. What is 3 times 2? (6) (8) (10)
22. What is 2 times 7? (14) (16) (18)
23. What is 2 times 4? (6) (8) (10)
24. What is 6 times 2? (8) (10) (12)
25. What is 2 times 8? (14) (16) (18)
26. 3 multiplied by 3 equals 9.
27. What is 3 times 3? (6) (8) (9)
28. 3 times 4 is 12.
29. What is 4 times 3? (6) (9) (12)
30. 3 multiplied by 5 is 15.
31. 5 times 3 is what? (9) (12) (15)
32. 3 times 6 is 18.
33. What is 6 multiplied by 3? (12) (15) (18)
34. 3 multiplied by 7 equals 21.
35. 7 times 3 is what? (18) (21) (24)
36. 3 times 8 is 24.
37. 8 times 3 is what? (18) (21) (24)
38. 3 multiplied by 9 equals 27.
39. 9 times 3 is what? (21) (24) (27)

40. What is 5 times 3? (15) (18) (21)
41. What is 3 times 4? (9) (12) (15)
42. What is 3 multiplied by 7? (21) (24) (27)
43. 6 times 3 is what? (12) (15) (18)
44. 8 times 3 is what? (24) (27) (30)
45. 4 multiplied by 4 is 16.
46. 4 multiplied by 5 equals 20.
47. What is 5 times 4? (12) (16) (20)
48. 4 times 6 equals 24.
49. What is 6 multiplied by 4? (16) (20) (24)
50. 4 multiplied by 7 is 28.
51. What is 7 times 4? (20) (24) (28)
52. 4 times 8 is 32.
53. What is 8 times 4. (24) (28) (32)
54. 4 multiplied by 9 equals 36.
55. What is 9 times 4? (32) (36) (40)
56. What is 6 times 4? (24) (28) (32)
57. 5 times 4 is what? (20) (24) (28)
58. 4 times 8 is what? (24) (28) (32)
59. What is 4 multiplied by 7? (24) (28) (32)
60. 5 multiplied by 5 is 25.
61. 5 multiplied by 6 is 30.
62. What is 6 multiplied by 5? (25) (30) (35)

63. 5 times 7 is 35.
64. What is 7 times 5? (25) (30) (35)
65. 5 times 8 equals 40.
66. What is 8 times 5? (40) (45) (50)
67. 5 times 9 equals 45.
68. What is 9 multiplied by 5? (40) (45) (50)
69. What is 6 multiplied by 5? (30) (35) (40)
70. What is 5 times 8? (30) (35) (40)
71. What is 7 times 5? (30) (35) (40)
72. 6 times 6 equals 36.
73. 6 times 7 is 42.
74. What is 7 times 6? (30) (36) (42)
75. 6 multiplied by 8 equals 48.
76. What is 8 times 6? (42) (48) (54)

## B

77. 6 times 9 is 54.
78. What is 9 times 6? (42) (48) (54)
79. What is 6 multiplied by 7? (42) (48) (54)
80. What is 6 multiplied by 8? (42) (48) (54)
81. 7 times 7 equals 49.
82. 7 times 8 is 56.
83. What is 8 times 7? (49) (56) (63)
84. 7 multiplied by 9 is 63.



85. What is 9 multiplied by 7? (49) (56) (63)
86. What is 8 multiplied by 7? (56) (63) (70)
87. 8 times 8 equals 64.
88. 8 times 9 equals 72.
89. What is 9 times 8? (64) (72) (80)
90. What is 8 times 8? (64) (72) (80)
91. 9 times 9 is 81.
92. What is 9 multiplied by 9? (63) (72) (81)
93. When you multiply 1 times 3 you get 3. When you multiply 1 times 4 you get 4, and 1 times 5 is 5.
94. What is 1 times 6? (1) (6)
95. What is 1 times 7? (7) (1)
96. What is 1 times 8? (7) (8) (9)
97. 10 multiplied by 3 equals 30. 10 multiplied by 4 equals 40, and 10 times 5 is 50.
98. What is 10 times 6? (10) (60)
99. What is 10 times 7? (70) (17)
100. What is 10 times 8? (60) (70) (80)
101. 11 multiplied by 1 is 11. 11 multiplied by 2 equals 22, and 11 times 3 is 33.
102. What is 11 times 4? (14) (44)
103. What is 11 times 5? (44) (55) (66)
104. What is 11 times 6? (44) (55) (66)
105. Zero multiplied by any number is 0. 0 times 1 is 0. 0 times 2 is 0.
106. What is 0 times 4? (0) (1) (2)

107. What is 0 times 5? (0) (5)

108. What is 0 times 6? (6) (0)

109. This is another way to multiply numbers. 2 times 3 is 6.  
6 is written below a line.

$$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$$

110. 2 times 4 is what? (6) (8) (10)

111. Here are two ways to multiply 2 times 4. You can multiply 2 times 4 across and get 8, or you can multiply 2 times 4 down and get 8. You can multiply either way.

$$2 \times 4 = 8$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline 8 \end{array}$$

112. What is 2 times 5? (10) (12) (14)

113. What is 2 times 6? (10) (12) (14)

114. What is 2 multiplied by 7? (10) (12) (14)

115. What is 7 multiplied by 2? (10) (12) (14)

116. 2 times 7 is 14. 7 times 2 is 14. It makes no difference which number comes first when you multiply.

117. What is 2 times 8? (16) (18) (20)

118. What is 2 times 9? (16) (18) (20)

119. What is 3 multiplied by 3? (6) (9)

120. What is 3 multiplied by 4? (12) (15) (18)

121. What is 3 multiplied by 5? (12) (15) (18)

122. What is 3 times 6? (12) (15) (18)

123. What is 3 times 7? (21) (24) (27)

124. What is 3 times 8? (21) (24) (27)

125. What is 3 times 9? (21) (24) (27)

126. What is 4 times 4? (16) (20) (24)

127. What is 4 times 5? (16) (20) (24)
128. What is 4 multiplied by 6? (16) (20) (24)
129. What is 4 multiplied by 7? (28) (32) (36)
130. What is 4 times 8? (28) (32) (36)
131. What is 4 times 9? (28) (32) (36)
132. What is 5 times 5? (25) (30) (35)
133. What is 5 times 6? (25) (30) (35)
134. What is 5 times 7? (25) (30) (35)
135. What is 5 times 8? (35) (40) (45)
136. What is 5 times 9? (35) (40) (45)
137. What is 6 multiplied by 6? (36) (42) (48)
138. What is 6 multiplied by 7? (36) (42) (48)
139. What is 6 times 8? (36) (42) (48)
140. What is 6 times 9? (48) (54) (60)
141. What is 7 times 7? (49) (56) (63)
142. What is 7 times 8? (49) (56) (63)
143. What is 7 times 9? (49) (56) (63)
144. What is 8 times 8? (56) (64) (72)
145. What is 8 times 9? (56) (64) (72)
146. What is 9 times 9? (63) (72) (81)
147. What is 1 times 4? (1) (4)
148. 10 times 4 is what? (40) (50) (60)
149. 11 times 4 is what? (33) (44) (55)

150. What is 0 times 4? (4) (0)

151. Which of these is the times sign? (=) (x)

152. Which of these is the equals sign? (x) (=)

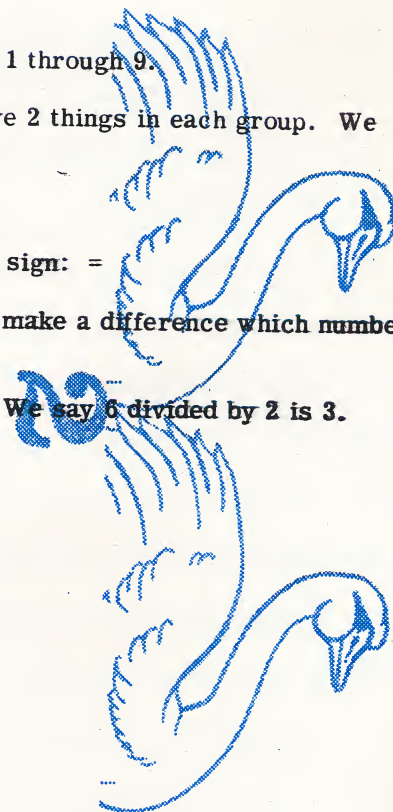
# MATHEMATICS

## Numbers series

# Mn

6

1. In this lesson we will practice dividing with the numbers 1 through 9.
2. If we have 4 things and put them in 2 groups, then we have 2 things in each group. We say 4 divided by 2 is 2.
3. 4 divided by 2 is 2. This is the division sign:  $\div$
4. We could say 4 divided by 2 equals 2. This is the equals sign: =
5. 4 divided by 2 is not the same as 2 divided by 4. It does make a difference which number comes first when you divide.
6. 6 things put into 2 groups equals 3 things in each group. We say 6 divided by 2 is 3.
7. 8 divided by 2 is 4.
8. 10 divided by 2 equals 5.
9. What is 12 divided by 2? (6) (7) (8)
10. What is 14 divided by 2? (6) (7) (8)
11. What is 16 divided by 2? (6) (7) (8)
12. What is 18 divided by 2? (9) (8) (7)
13. 10 divided by 2 equals what? (4) (5) (6)
14. 14 divided by 2 equals what? (7) (6) (5)
15. 8 divided by 2 is what? (2) (3) (4)
16. What is 12 divided by 2? (5) (6) (7)
17. What is 18 divided by 2? (7) (8) (9)





18. What is 16 divided by 2? (7) (8) (9)
19. 6 things put into 3 groups equals 2 things in each group. We say 6 divided by 3 equals 2.
20. 9 divided by 3 equals 3.
21. 12 divided by 3 equals 4.
22. What is 15 divided by 3? (5) (6) (7)
23. What is 18 divided by 3? (5) (6) (7)
24. What is 21 divided by 3? (5) (6) (7)
25. 24 divided by 3 equals what? (7) (8) (9)
26. 27 divided by 3 equals what? (7) (8) (9)
27. 12 divided by 3 is what? (2) (3) (4)
28. 18 divided by 3 is what? (5) (6) (7)
29. What is 21 divided by 3? (5) (6) (7)
30. What is 27 divided by 3? (9) (8) (7)
31. 15 divided by 3 equals what? (3) (4) (5)
32. 24 divided by 3 equals what? (7) (8) (9)
33. 8 things divided into 4 groups equals 2 things in each group. 8 divided by 4 equals 2.
34. 12 divided by 4 equals 3.
35. 16 divided by 4 equals 4.
36. 20 divided by 4 is 5.
37. What is 24 divided by 4? (6) (7) (8)
38. What is 28 divided by 4? (6) (7) (8)
39. What is 32 divided by 4? (6) (7) (8)
40. What is 36 divided by 4? (7) (8) (9)

41. 16 divided by 4 equals what? (2) (3) (4)
42. 28 divided by 4 equals what? (7) (8) (9)
43. 32 divided by 4 is what? (7) (8) (9)
44. What is 20 divided by 4? (5) (6) (7)
45. What is 24 divided by 4? (5) (6) (7)
46. What is 36 divided by 4? (7) (8) (9)
47. 10 divided by 5 equals 2.
48. 15 divided by 5 equals 3.
49. 20 divided by 5 equals 4.
50. What is 25 divided by 5? (5) (6) (7)
51. What is 30 divided by 5? (5) (6) (7)
52. What is 35 divided by 5? (5) (6) (7)
53. 40 divided by 5 equals what? (8) (9) (7)
54. 45 divided by 5 equals what? (8) (9) (7)
55. What is 20 divided by 5? (4) (6) (8)
56. What is 30 divided by 5? (4) (6) (8)
57. What is 40 divided by 5? (4) (6) (8)
58. 25 divided by 5 equals what? (5) (7) (9)
59. 35 divided by 5 equals what? (5) (7) (9)
60. 45 divided by 5 equals what? (5) (7) (9)
61. 12 divided by 6 is 2.
62. 18 divided by 6 is 3.
63. 24 divided by 6 is 4.

64. 30 divided by 6 is what? (5) (6) (7)
65. 36 divided by 6 is what? (5) (6) (7)
66. 42 divided by 6 equals what? (5) (6) (7)
67. 48 divided by 6 equals what? (7) (8) (9)
68. 54 divided by 6 equals what? (7) (8) (9)
69. What is 30 divided by 6? (5) (6) (7)
70. What is 36 divided by 6? (5) (6) (7)
71. What is 48 divided by 6? (7) (8) (9)
72. What is 24 divided by 6? (2) (3) (4)
73. What is 42 divided by 6? (7) (8) (9)
74. What is 54 divided by 6? (7) (8) (9)
75. 14 divided by 7 equals 2.
76. 21 divided by 7 equals 3.
77. 28 divided by 7 equals 4.
78. What is 35 divided by 7? (5) (6) (7)
79. What is 42 divided by 7? (5) (6) (7)
80. What is 49 divided by 7? (5) (6) (7)
81. What is 56 divided by 7? (7) (8) (9)
82. What is 63 divided by 7? (7) (8) (9)
83. 42 divided by 7 equals what? (5) (6) (7)
84. 35 divided by 7 equals what? (5) (6) (7)
85. 63 divided by 7 equals what? (7) (8) (9)
86. What is 28 divided by 7? (2) (3) (4)

87. What is 49 divided by 7? (7) (8) (9)  
88. What is 56 divided by 7? (7) (8) (9)  
89. 16 divided by 8 equals 2.  
90. 24 divided by 8 equals 3.

## B

91. 32 divided by 8 equals 4.  
92. What is 40 divided by 8? (5) (6) (7)  
93. What is 48 divided by 8? (5) (6) (7)  
94. What is 56 divided by 8? (7) (8) (9)  
95. What is 64 divided by 8? (7) (8) (9)  
96. What is 72 divided by 8? (7) (8) (9)  
97. 40 divided by 8 is what? (4) (5) (6)  
98. 32 divided by 8 is what? (4) (5) (6)  
99. 56 divided by 8 is what? (7) (8) (9)  
100. What is 72 divided by 8? (7) (8) (9)  
101. What is 64 divided by 8? (7) (8) (9)  
102. What is 48 divided by 8? (5) (6) (7)  
103. 18 divided by 9 equals 2.  
104. 27 divided by 9 equals 3.  
105. 36 divided by 9 equals 4.  
106. What is 45 divided by 9? (5) (6) (7)

107. What is 54 divided by 9? (5) (6) (7)
108. 63 divided by 9 is what? (5) (6) (7)
109. 72 divided by 9 is what? (7) (8) (9)
110. 81 divided by 9 is what? (7) (8) (9)
111. 36 divided by 9 is what? (2) (3) (4)
112. What is 54 divided by 9? (5) (6) (7)
113. What is 72 divided by 9? (7) (8) (9)
114. What is 45 divided by 9? (4) (5) (6)
115. What is 63 divided by 9? (7) (8) (9)
116. What is 81 divided by 9? (7) (8) (9)
117. When you divide 3 by 1, you get 3. 4 divided by 1 is 4, and 5 divided by 1 is 5.
118. What is 6 divided by 1? (6) (7)
119. What is 7 divided by 1? (7) (8)
120. What is 8 divided by 1? (8) (9)
121. If you have 3 things and put them into 3 groups, you have 1 thing in each group. We say 3 divided by 3 is 1. 4 divided by 4 is 1, and 5 divided by 5 is 1.
122. What is 6 divided by 6? (1) (6)
123. What is 7 divided by 7? (1) (7)
124. This is another way to show how we can divide numbers. 6 divided by 2 is 3. 3 is written above the division sign.

$$2 \overline{)6}$$

125. 8 divided by 2 is 4.

126. Here are two ways to divide 8 by 2. You can divide 8 by 2 across and get 4, or you can divide 8 by 2 with this division sign and get 4. You can divide either way.

$$8 \div 2 = 4$$

$$2 \overline{)8}^4$$



127. What is 10 divided by 2? (5) (6) (7)
128. What is 12 divided by 2? (5) (6) (7)
129. 14 divided by 2 is not the same as 2 divided by 14. It does make a difference which number is written inside the division sign.
130. 16 divided by 2 is what? (7) (8) (9)
131. 18 divided by 2 is what? (7) (8) (9)
132. What is 12 divided by 3? (2) (3) (4)
133. What is 21 divided by 3? (7) (8) (9)
134. What is 27 divided by 3? (7) (8) (9)
135. What is 15 divided by 3? (4) (5) (6)
136. What is 24 divided by 3? (7) (8) (9)
137. What is 18 divided by 3? (4) (5) (6)
138. 24 divided by 4 is what? (4) (5) (6)
139. 36 divided by 4 is what? (7) (8) (9)
140. 16 divided by 4 is what? (3) (4) (5)
141. 28 divided by 4 is what? (7) (8) (9)
142. 20 divided by 4 is what? (4) (5) (6)
143. 32 divided by 4 is what? (7) (8) (9)
144. What is 40 divided by 5? (4) (6) (8)
145. What is 30 divided by 5? (4) (6) (8)
146. What is 20 divided by 5? (4) (6) (8)
147. What is 25 divided by 5? (5) (7) (9)
148. What is 35 divided by 5? (5) (7) (9)

149. What is 45 divided by 5? (5) (7) (9)
150. 36 divided by 6 is what? (4) (5) (6)
151. 24 divided by 6 is what? (4) (5) (6)
152. 54 divided by 6 is what? (7) (8) (9)
153. 30 divided by 6 is what? (4) (5) (6)
154. 42 divided by 6 is what? (7) (8) (9)
155. 48 divided by 6 is what? (7) (8) (9)
156. What is 49 divided by 7? (7) (8) (9)
157. What is 28 divided by 7? (2) (3) (4)
158. What is 63 divided by 7? (7) (8) (9)
159. What is 42 divided by 7? (4) (5) (6)
160. What is 35 divided by 7? (4) (5) (6)
161. What is 56 divided by 7? (7) (8) (9)
162. 40 divided by 8 is what? (5) (6) (7)
163. 48 divided by 8 is what? (4) (5) (6)
164. 64 divided by 8 is what? (7) (8) (9)
165. 32 divided by 8 is what? (2) (3) (4)
166. 72 divided by 8 is what? (7) (8) (9)
167. 56 divided by 8 is what? (7) (8) (9)
168. 64 divided by 8 is what? (7) (8) (9)
169. What is 81 divided by 9? (7) (8) (9)
170. What is 36 divided by 9? (2) (3) (4)
171. What is 63 divided by 9? (7) (8) (9)

172. What is 45 divided by 9? (4) (5) (6)
173. What is 72 divided by 9? (7) (8) (9)
174. What is 54 divided by 9? (4) (5) (6)
175. What is 5 divided by 1? (5) (6)
176. What is 8 divided by 1? (8) (9)
177. What is 4 divided by 4? (8) (1)
178. What is 9 divided by 9? (18) (1)
179. Which of these means divide? (+) ( $\div$ ) (x)
180. Do these mean the same? (yes) (no)

$$10 \div 2$$

$$2 \div 10$$

# MATHEMATICS

## Numbers series

Mn

7

1. Number Systems should more properly be called Numeration Systems. What is the name of the number system used in most of the world today? (decimal) (septimal) (~~octonal~~)
2. During this lesson you'll study number systems used by the Egyptians, Greeks and Romans before the decimal system was adopted. How many numerals do we have in the decimal system? (5) (10) (20)
3. Primitive man probably learned to count on his fingers. What numbers could he count on the fingers of both hands? (1 to 5) (1 to 10)
4. About 5000 years ago the Egyptians had a written number system. Their symbol for one was a short vertical line. For two, two lines and so on to ten. How would the Egyptians write five? (III) (IIII) (II)
5. Then the Egyptians found they needed a symbol to stand for a group with ten in it. Their numeral for ten resembled a heel bone or an inverted "U". They wrote thirteen this way. How would they write thirty-one?


  
 IIII

6. The order in which they wrote the symbols made no difference so they could write twenty-four any of these three ways. Are these both correct ways of writing forty-two? (yes) (no)


  
 IIII


  
 IIII


  
 IIII


  
 IIII


  
 IIII

7. The Egyptian symbol for one hundred looked like a coil of rope. So one hundred and fifty-two was written like this. Did the order in which the numerals were written make a difference? (yes) (no)



  
 9 IIII


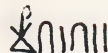

8. To write any number from one to one thousand they used only these three symbols and repeated them as often as necessary. Which is shorter? (the decimal number three hundred and forty-nine) (the Egyptian numeral for three hundred and forty-nine)

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 999 IIII



9. Their symbol for one thousand is pictured here.  Which would be the correct way to write one thousand and twenty-three?

10. The Greeks had a number system about twenty-five hundred years ago. They used letters of the alphabet with bars over them for numerals. Who had the first numeration system? (Greeks) (Egyptians)

$\bar{A}$   $\bar{B}$   $\bar{\Gamma}$   $\bar{\Delta}$   $\bar{E}$

11. The Greeks had 27 basic numerals - nine symbols for the numbers one through nine, nine more symbols for ten, twenty, thirty etc. Then nine more symbols for one hundred, two hundred etc. Which numeration system has more symbols? (Greek) (Decimal)

(9) 1, 2, .....

$\bar{A}, \bar{B}, \dots$

(9) 10, 20, .....

$\bar{I}, \bar{K}, \dots$

(9) 100, 200, .....

$\bar{P}, \bar{\Sigma}, \dots$

12. Greek symbols could be written in any order so two hundred and nineteen could be written in any of these three ways. Did the order of writing Egyptian numerals make a difference? (yes) (no)

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$\bar{I}\bar{\Sigma}\bar{\Theta}$   $\bar{\Theta}\bar{I}\bar{\Sigma}$   $\bar{\Sigma}\bar{I}\bar{\Theta}$

13. Which was shorter? (the Greek numeral for two hundred and nineteen) (the Egyptian numeral for two hundred and nineteen)

$\bar{I}\bar{\Sigma}\bar{\Theta}$



14. For numbers in the thousands the Greeks drew a slant line in front of their numerals from one to nine. To write eight thousand they put a slant line before their symbol for eight. Find the Greek number for six thousand.

8 -  $\bar{H}$   
6 -  $\bar{F}$

8000 -  $\bar{H}$

$\bar{A}$

$\bar{F}$

$\bar{F}$

15. Most people are familiar with Roman numerals. The Romans used these symbols about 2000 years ago. Which is the Roman numeral for three? (I) (II) (III)

16. The Roman numeral five looks like a capital "V". Find the Roman numeral for seven. (VI) (VII) (VIII)

17. The Roman numeral ten is an "X". What decimal number does this Roman numeral represent? XXIII (23) (32) (22)

18. What is the Roman numeral for thirty-five? (XXVV) (XXXIII) (XXXV)



19. Most Roman numbers are written with the largest numeral on the left, next largest to its right, and so on. When they wrote a smaller numeral before a larger one, they meant for it to be subtracted. So I V means one is to be subtracted from five. Does I X mean, then, that one is to be subtracted from ten? (yes) (no)

20. Are these the Roman numerals for the numbers I, II, III, IV, V, VI, VII, VIII, IX, X one to ten? (yes) (no)

21. The Roman numeral for fifty is "L". What decimal number does this Roman number represent: LXV? (55) (65) (75)

22. When "X" is written before "L" then ten is to be subtracted from fifty. What is the Roman numeral for forty-five? (LXV) (XLV)

23. How would you write the decimal number for LXXIII? (73) (63) (43)

24. Find the Roman numeral for eighty-seven. (LXXII) (LXXXVII) (LXXVII)

25. The Roman symbol for one hundred is a Capital "C". What is the Roman numeral for one hundred and thirty? (CLXV) (CLXX) (CXXX)

26. What decimal number does CCXXXV represent? (325) (235) (233)

27. Find the Roman numeral for three hundred and sixty-five. (CCCLXV) (CCLLX) (CCCLXX)

28. When "X" is written before "C", ten is subtracted from 100. What is the Roman numeral for ninety-six? (XCVV) (CXVI) (XCVI)

29. Are these the Roman numerals for ten, twenty, and so on to one hundred? (yes) (no)

X, XX, XXX, XL, L

LX, LXX, LXXX, XC, C

30. The Roman symbol for five hundred is a capital "D". How would you write five hundred and fifty in Roman numerals? (DC) (DLC) (DL)

31. When C is written in front of D, one hundred is subtracted from five hundred. Find the Roman number for four hundred twenty. (CDXXV) (CDXX) (DCLX)

32. Find the decimal number for CDLXXVII. (366) (437) (477)

33. The Roman symbol for one thousand is "M". How would one thousand sixty be written in Roman numerals? (MDX) (MLX) (MLV)

34. Find the Roman numeral for three thousand and forty-five. (MMDLXV) (MMMXLV)

35. Which is the decimal number for MDCCCLXVII? (1867) (1877) (1767)
36. If C is written in front of M then one hundred is to be subtracted from one thousand. What is the Roman numeral for nine hundred fifty five? (MCLV) (CMLV) (CMXV)
37. Are these the Roman numerals for one hundred, two hundred, and so on to one thousand? (yes) (no)
- C, CC, CCC, CD, D  
DC, DCC, DCCC, CM, M
38. Find the Roman numeral for two thousand forty-two. (MDLXII) (MMXLII)
39. Which is the Roman numeral for nineteen hundred and fifty? (MCML) (MDML)
40. What decimal number does this Roman numeral represent: MDCCCLXXXVI? (1886) (1786) (1766)
41. Find the decimal number for MCMXLIX. (1949) (1969) (1869)
42. The order in which the Egyptians and the Greeks wrote their symbols made no difference. Do these two Roman numerals have the same value: IX, XI? (yes) (no)
43. When a smaller numeral is written before a larger one, is it added to, or subtracted from, the larger numeral? (added) (subtracted)
44. Are these all examples of a smaller numeral subtracted from a larger one? (yes) (no)
- IV, IX, XL, XC, CD, CM
45. Who had the greatest number of symbols for numbers? (Egyptians) (Greeks) (Romans)
46. Who had the first numeration system? (Egyptians) (Greeks) (Romans)
47. The numbers on this clock are Roman numerals. What time is it? (6 o'clock) (7 o'clock) (5 o'clock)



48. This is the copyright date of a book: MCMLXVIII. In what year was it copyrighted? (1968) (1948) (1866)

# MATHEMATICS

## Numbers

## series

# Mn

8

1. All numeration systems are man-made and so are influenced by the fact that man has ten fingers. A numeral can be any symbol as long as we understand what number the symbol stands for. How many different symbols that stand for numbers do we have in the decimal system? (3) (5) (10)

2. The Egyptians had the first number system about 5000 years ago. They used these symbols. To write their numbers they simply repeated these numerals. Were some of their numbers long to write? (yes) (no)

⌘ 9 n

3. The Greeks had a number system with 27 basic symbols. Their numerals were the letters of their alphabet with bars over them. What do we call a symbol that stands for a number? (finger) (numeral) (letter)

4. Most people are familiar with Roman numerals. When a smaller numeral comes before a larger numeral, in this number system, is it added or subtracted? (added) (subtracted)

5. To which of these people did the order in which the numerals were written make a difference? (Egyptians) (Romans) (Greeks)

6. Who had the largest number of symbols? (Romans) (Egyptians) (Greeks)

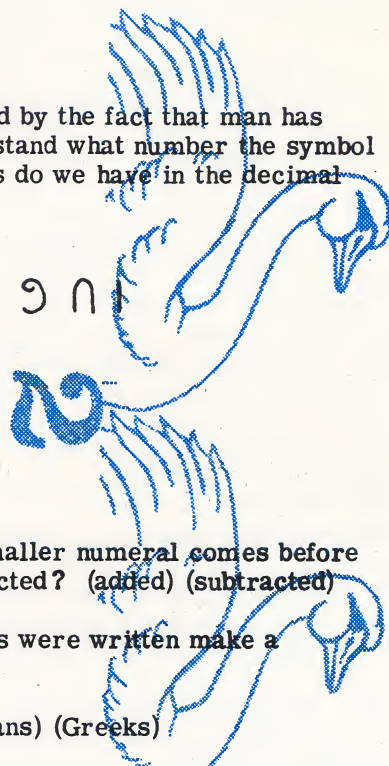
7. The Babylonians had a numeration system almost 5000 years ago which had only two basic symbols. They wrote their numbers in soft clay using a stylus so their symbol for one looks like a wedge and ten looks like two wedges coming together. Is the Babylonian number system about as old as the Egyptians? (yes) (no)

one ten

∨ <

8. And like the Egyptians they repeated these two symbols to form numbers. What decimal number does this Babylonian number represent? (5) (23) (32)

<< ∨∨∨





9. The Babylonians used the repetitive principle for numbers from one to sixty. Did the Egyptians use this principle for numbers from one to 60 or from one to 100? (1 to 60) (1 to 100)

10. For sixty the Babylonians drew their symbol for one 60 V left ←  
 in a position to the left of numbers less than sixty. 70 V <  
 Seventy was written by drawing a simple wedge first,  
 followed by a double wedge for ten. Would they write 83 V << V V  
 eighty-three this way? (yes) (no)

11. The Babylonians were good astronomers and kept records of the moon and stars. It's because of them that an hour is divided into sixty minutes and a minute into sixty seconds. Do these two Babylonian numerals represent the same or different numbers? (same) (different) V < < V

12. The Babylonians used position and place value, a very important contribution. When they drew their symbol for one in the third position to the left it had value of 60 times 60 or 3600 (thirty-six hundred). V V V  
 Is this the number of seconds in an hour? (yes) (no) 60 x 60 60 units

13. If the Babylonian symbols were not properly spaced the numbers could be misread. They finally used a double wedge to indicate a space or zero. <<  
 Who used position and place value to write their numerals? (Egyptians) (Babylonians) (Greeks)

14. Suppose we took our numerals for five and six and arranged them with the five first, then with the six first. Would they represent the same number? (yes) (no)

15. We use position in our decimal system. Our numerals resemble the symbols the Hindus had about twenty-three hundred years ago. 28036

16. Later these symbols were changed in form by the Arabs. So our number system is called Hindu-Arabic. Our numerals from one to nine are called natural numbers or counting numbers. Does the set of natural numbers include zero? (yes) (no)

17. It wasn't until about one thousand years ago that we started using a symbol for zero. Do we need zero to write three hundred and eight in decimal numbers? (yes) (no)

18. Who used a double wedge to indicate a space or zero? (Greeks) (Babylonians) (Romans)

19. The numerals one through nine and zero are called digits, a word that refers to fingers. Since man has ten fingers, it is natural for him to group by tens and design a number system with a base of ten. How long have we had a symbol for zero? (2000 yrs.) (100 yrs.) (1000 yrs.)

20. The symbols we use for our counting numbers from one to nine resemble the numerals what two peoples used? (Greeks and Romans) (Hindus and Arabs) (Babylonians and Egyptians)
21. What is the word we call our numbers that refers to fingers? (digits) (natural) (letters)
22. In our decimal system we assign values to positions. When we write three followed by eight we know three is in the tens position and eight is in the ones position. Is this number three plus eight or thirty-eight? 38 (3 plus 8) (thirty-eight)
23. The value of a numeral in the tens position is ten times its value in the units or ones position. What is the value of four in this number: 49? ( $10 \times 4$ ) ( $10 + 1$ ) (1)
24. What is the largest number you can write using these two digits: 4 and 9? (49) (13) (94)
25. Since the position farthest left has the greatest value, we place the numeral for the largest number there. The position to the left of the tens is called the hundreds position. The value of a numeral in this position is ten times ten times one or one hundred. Which numeral is in the hundreds position in this decimal number: 257? (7) (2) (5)
26. What is the value of seven in this number: 713? ( $10 \times 10$ ) ( $10 \times 1$ ) ( $10 + 10$ )
27. To write the largest number possible using these three numerals, which would you put in the hundreds position: 1, 3, 8? (3) (8) (1)
28. The value of a numeral in the hundreds position is how many times greater than in the tens position? (two) (five) (ten)
29. Going from right to left, each position has a value ten times greater than the one before. A numeral in the tens position has a value of ten times one, or ten, and a numeral in the hundreds position has a value of ten times ten times one or one hundred. What is the value of a numeral in the next position, the thousands position? ( $10 \times 10 \times 10$ ) ( $10 \times 10$ ) ( $10 \times 1$ )
30. Which numeral is in the thousands position in this decimal number: 1948? (8) (9) (1)
31. What is the value of eight in this numeral: 8247? ( $10 \times 10 \times 10$ ) ( $10 \times 1$ ) ( $10 \times 10$ )
32. Which numeral in this decimal number has a value of ten times ten times ten: 3561? (5) (6) (3)
33. Which numeral is in the hundreds position: 3561? (6) (5) (3)
34. What is the largest decimal number you can write using these four numbers: 5, 2, 4, 7? (7524) (5724) (7542)
35. What is the value of five in this number: 7542? ( $10 \times 1$ ) ( $10 \times 10$ ) ( $10 \times 10 \times 10$ )



36. How would you write eight thousand and thirty-six in decimal numbers? (8036) (836)
37. How do we write four thousand two hundred and five? (425) (4205)
38. Sometimes zero is referred to as a placeholder when there is no counting number. Zero is a placeholder for which position in this number: 4205? (hundreds) (tens) (thousands)
39. What is the largest number you can write using 0, 1, 7, 9? (9071) (7910) (9710)
40. The position to the left of the thousands is called the ten thousands position. Find its value. ( $10 \times 10 \times 10 \times 10$ ) ( $10 \times 10 \times 10$ )
41. In the number sixty-one thousand seven hundred and two which numeral is in the ten thousands position? (2) (6) (7)
42. Do we read this numeral seventy-two thousand four hundred and fifty: 72,450? (yes) (no)
43. The next position to the left of ten thousands is called the hundred thousands position. What is the value of a numeral in this position? ( $10 \times 10 \times 10 \times 10$ ) ( $10 \times 10 \times 10 \times 10 \times 10$ )
44. In the number two hundred and forty-nine thousand five hundred which numeral is in the hundred thousands position? (9) (2) (5)
45. Find the numeral in the hundreds position: 249,500. (9) (2) (5)
46. The value of a numeral in the next position left is one million. One million is how many tens multiplied together? (6) (5) (7)
47. The value of this position is how many times the value of the hundred thousands position? (6) (10) (100)
48. As you go from right to left, the value of each position is ten times the value of the one before. That is why we say the decimal system has a base of ten. Which of these decimal numbers is read five million, two hundred forty thousand? (524,050) (5,240,000)

# MATHEMATICS

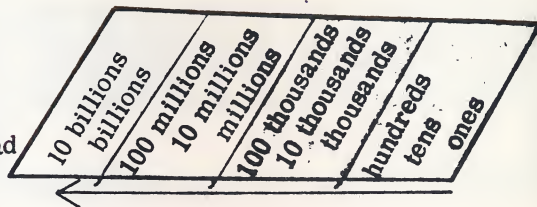
## Numbers series

# Mn

9

1. All number systems are man-made. Written numerals in any given system conform to certain conventions we learn to understand. The Babylonians had only two basic symbols and used position and place value. The Decimal system also uses position and place value but has ten different symbols. From left to right, are these numerals arranged from largest to smallest or from smallest to largest: 9, 8, 7, 6, 5, 4, 3, 2, 1, 0? (largest to smallest) (smallest to largest)
2. If we start at the extreme right and move to the left the positions are called ones, tens, hundreds, thousands, and ten thousands. What is the sixth position called? (billions) (millions) (hundred thousands)
3. Going from right to left the value of the positions are one, ten times one (or ten), ten times ten (or one hundred), ten times ten times ten (or one thousand). The value of the ten thousands place is how many tens multiplied together? (3) (4) (5)
4. The value of the hundred thousands place is 5 tens multiplied together. The name of the next position is millions. The value of the millions place is how many tens multiplied together? (6) (7) (8)
5. There is a short way of writing ten times ten or two tens multiplied together. It is ten squared. Three tens multiplied together is ten cubed. Or sometimes we say ten to the third power. Which is a short way of writing four tens multiplied together? (10<sup>1</sup>) (10<sup>4</sup>) (10<sup>5</sup>)
6. The value of the ten thousands place is four tens multiplied together or ten to the fourth power **written** one followed by four zeros. One million is written one followed by six zeros. What is the value of a numeral in the millions place? (10<sup>5</sup>) (10<sup>7</sup>) (10<sup>6</sup>)
7. The next place to the left is the ten millions place, the next the hundred millions place. What is the value of this last place? (10<sup>9</sup>) (10<sup>8</sup>) (10<sup>7</sup>)
8. The next place is the billions place. A numeral written in this position has a value of how many tens multiplied together? (9) (10) (11)

9. Now you should see the pattern of naming the positions. Going from right to left, the positions are called ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions, ten millions, hundred millions, billions, ten billions, and so forth. To make large numbers easier to read we use commas to separate groups of numerals. How many numerals in each group separated by commas? (5) (2) (3)



10. Going from right to left the first group of numbers are ones, tens and hundreds. The next group of three are the thousands, next left are the millions. What is the name of the group left of the millions? (billions) (millions) (trillions)

11. The group to the left of the billions is the trillions. Going from right to left the value of each position is one, ten to the first power (or ten), ten squared (or ten to the second power), ten cubed (or ten to the third power), ten to the fourth power and so on. The value of a numeral in any given position is how many times greater than the value of a numeral in the position to its right? (2) (5) (10)

12. A numeral in the billions place has a value of twelve tens multiplied together. Which is the short way to write this? ( $10^{12}$ ) ( $10^{12}$ ) ( $12^{10}$ )

13. Sometimes to do a quick computation and get an approximate answer, we round numbers to the nearest given place. For example, to round the number 43 to the nearest ten, we make the ones place zero. Is 43 closer to 40 or 50? (40) (50)

14. Is 48 closer to 40 or 50? (40) (50)

15. What is 72 rounded to the nearest ten? (70) (80)

16. What is 54 rounded to the nearest ten? (40) (50) (60)

17. What is 27 rounded to the nearest ten? (40) (20) (30)

18. Sixty-six is closest to which of these? (70) (60) (50)

19. Any number rounded to the nearest ten has zero in the ones place. The rule for numbers exactly halfway between two tens is to round them to the next higher ten. For example, 45 rounded to the nearest ten is 50. What is 85 rounded to the nearest ten? (70) (90) (80)

20. After rounding a number to the nearest ten, what numeral is in the ones place? (0) (5) (2)



21. Numbers rounded to the nearest hundred have zeros in both the tens place and ones place. 217 rounded to the nearest hundred is 200. What is 523 rounded to the nearest hundred? (500) (600)
22. Round 896 to the nearest hundred. (800) (900) (850)
23. What is 739 rounded to the nearest hundred? (70) (800) (700)
24. Round 453 to the nearest hundred. (450) (500) (400)
25. If the number is exactly halfway, like 450, we round it to the next higher hundred - 500. What is 250 rounded to the nearest hundred? (200) (300)
26. Numbers rounded to the nearest hundred have zeros in the \_\_\_\_\_. (ones place) (tens place) (both)
27. Is this number rounded to the nearest ten or hundred: 173 rounded to 170? (ten) (hundred)
28. Is this number rounded to the nearest ten or hundred: 639 rounded to 600? (ten) (hundred)
29. These numbers were rounded to the nearest ten. Which one is not correct? (1) 728 rounded to 730; (2) 463 rounded to 470; (3) 955 rounded to 960. (1) (2) (3)
30. These numbers were rounded to the nearest hundred. Which is incorrect? (1) 564 rounded to 600; (2) 248 rounded to 200; (3) 819 rounded to 820. (1) (2) (3)
31. 3647 rounded to the nearest thousand is 4000. There are zeros in the ones and tens place. Is there a zero in the hundreds place? (yes) (no)
32. Which is correct for 7258 rounded to the nearest thousand? (8000) (7000) (7300)
33. A good method to use in rounding numbers is first to decide where zeros will occur in the answer. After 5472 is rounded to the nearest thousand, how many places will have zeros? (2) (4) (3)
34. There will be zeros in the hundreds, tens, and ones places. Next look at the numeral in the hundreds place and decide if the numeral in the thousands place will remain the same or be one greater. In this example will the numeral in the thousands place remain 5 or be changed to 6? (remain 5) (change to 6)  
5472
35. Now you know numbers rounded to the nearest thousand have zeros in all the places to the right of the thousands place. If the numeral in the hundreds place is zero, one, two three or four, the numeral in the thousands place remains the same. In this example which numeral is in the hundreds place? (2) (8) (9)  
2839

36. What is 2839 rounded to the nearest thousand? (2000) (2800) (3000)
37. What numeral is in the hundreds place in this example: 9723? (7) (9) (3)
38. This number has been rounded to the nearest million: 2,375,000 rounded to 2,000,000. How many places now have zeros? (7) (5) (6)
39. Which of these has been correctly rounded to the nearest million? (4,728,450 to 5,000,000) (3,500,000 to 400,000)
40. This number has been rounded to the nearest billion: 6,291,000,000 rounded to 6,000,000,000. How many places have zeros? (8) (9) (10)
41. Which of these is rounded to the nearest billion? (3,418,200,000 to 3,000,000,000) (786,350,000 to 800,000,000)
42. These numbers were rounded to the nearest ten thousand. Which is correct? (723,316 to 730,000) (241,935 to 240,000)
43. These numbers were rounded to the nearest hundred thousand. Which is not correct? (1) 352,178 rounded to 400,000; (2) 649,200 rounded to 700,000; (3) 1,324,500 rounded to 1,300,000. (1) (2) (3)
44. Which number is read fifty-two thousand, five hundred thirty-five? (520,535) (52,535)
45. Which of these numbers is read one million, eight hundred seventy-three thousand, four hundred six? (1,873,406) (1,807,346)
46. Which is the correct way of writing 425,076 using words? (four hundred twenty thousand five hundred seventy-six) (four hundred twenty-five thousand, seventy-six)



# MATHEMATICS

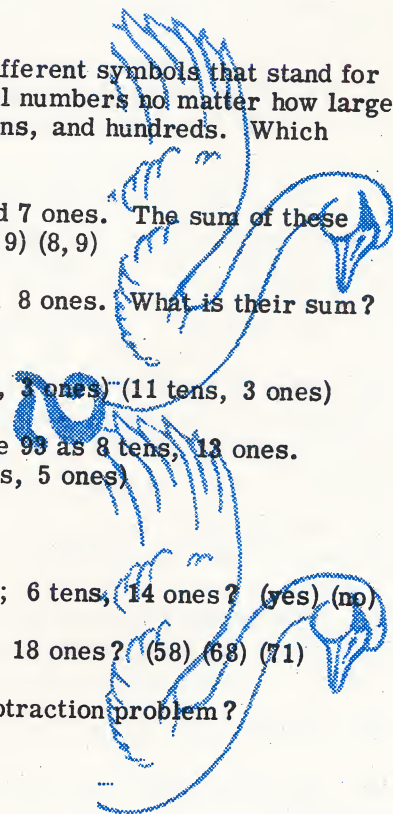
## Numbers series

Mn

10

1. You now know in the decimal system there are only ten different symbols that stand for numbers, and that we use position and place value to write all numbers no matter how large. The first three positions going from right to left are ones, tens, and hundreds. Which digit is in the tens place in 869? (6) (9) (8)
2. We can express 42 as 4 tens and 2 ones; 37 as 3 tens and 7 ones. The sum of these two numbers is how many tens and how many ones? (7, 5) (7, 9) (8, 9)
3. Another name for 65 is 6 tens, 5 ones; and for 28, 2 tens, 8 ones. What is their sum? (8 tens, 3 ones) (8 tens, 13 ones)
4. Which of these is another name for your answer? (9 tens, 3 ones) (11 tens, 3 ones)
5. Suppose we want to subtract 28 from 93. We must rename 93 as 8 tens, 13 ones. Now subtract and find the difference. (5 tens, 11 ones) (6 tens, 5 ones)
6. One ten is the same as how many ones? (5) (10) (100)
7. Are these both correct ways of naming 74: 7 tens, 4 ones; 6 tens, 14 ones? (yes) (no)
8. Which numeral, using digits, names this number: 5 tens, 18 ones? (58) (68) (71)
9. Which of these is the way to rename 45 in working this subtraction problem?  

$$\begin{array}{r} 45 \\ -29 \\ \hline \end{array}$$
10. Subtract and find your answer in digits. (17) (16) (26)
11. 57 can be named either of these two ways: 5 tens, 7 ones, or 4 tens, 17 ones. Is 40 plus 17 another way to name 57? (yes) (no)
12. Which is the correct way to name 100? (10 tens, 0 ones) (9 tens, 10 ones) (both)
13. 9 tens, 2 ones names 92 and 3 tens, 6 ones names 36. Their sum is 12 tens, 8 ones. How would this sum be written using digits? (110) (128) (182)



14. Add these two numbers and express using digits: 8 tens, 7 ones (87) and 5 tens, 4 ones (54). (141) (132) (142)

15. We've renamed these two numbers and added.  
What is the sum in digits? (417) (407) (317)

269 - 2 hundreds, 6 tens, 9 ones  
138 - 1 hundred, 3 tens, 8 ones

16. Find the sum of these two numbers.  
(622) (534) (634)

358 - 3 hundreds, 5 tens, 8 ones  
276 - 2 hundreds, 7 tens, 6 ones

17. Another name for 396 is 3 hundreds, 9 tens, 6 ones. Another name for 214 is 2 hundreds, one ten, 4 ones. Subtract and find your answer expressed in digits. (182) (184) (172)

18. Which of these is the correct way to name 257 for this subtraction problem?  
(a) 2 hundreds, 5 tens, 7 ones (b) 1 hundred, 15 tens, 7 ones. (a) (b)

257  
-185

19. Now subtract and find the answer using digits. (72) (82) (172)

20. Rename 802 for this subtraction problem.  
(8 hundreds, 2 ones) (7 hundreds, 10 tens, 2 ones)

802  
-370

21. Now subtract. Which answer, expressed in digits, is correct? (522) (432) (430)

22. Here is another subtraction problem. We have renamed 400 as 3 hundreds, 10 tens. Is this the correct way to name 400 for this subtraction problem? (yes) (no)

400  
-268

23. 400 should be renamed 3 hundreds, 9 tens, 10 ones. Now subtract. What is the answer? (132) (142) (133)

24. How should 203 be renamed to work this subtraction exercise? (a) 2 hundreds, 3 ones (b) 1 hundred, 10 tens, 3 ones (c) 1 hundred, 9 tens, 13 ones (a) (b) (c)

203  
-127

25. Subtract and find the answer expressed in digits. (176) (76) (77)

26. Are all of these correct ways of naming 943? (yes) (no)

9 hundreds, 4 tens, 3 ones  
8 hundreds, 14 tens, 3 ones  
8 hundreds, 13 tens, 13 ones

27. What does 8 hundreds, 13 tens, 13 ones mean?  $(800 + 13 + 13)$   $(800 + 130 + 13)$

28. Are all of these correct ways of naming 943? (yes) (no)

$900 + 40 + 3$   
 $800 + 140 + 3$   
 $800 + 130 + 13$

29. Which of these is a way to think of 500 in working this subtraction exercise?  
(a) 4 hundreds, 10 tens, 10 ones    (b) 4 hundreds, 9 tens, 10 ones    (c) 5 hundreds, 9 tens, 10 ones    (a) (b) (c)

$$\begin{array}{r} 500 \\ -335 \\ \hline \end{array}$$

30. Which of these is the difference expressed in digits? (155) (164) (165)
31. Which of these is not a correct way to name 251? (24 tens, 11 ones) (20 tens, 11 ones)
32. Which of these is not a correct way to name 405? (30 tens, 15 ones) (39 tens, 15 ones) (40 tens, 5 ones)
33. Find the correct way to rename 405 for this subtraction exercise. (40 tens, 15 ones)  
(39 tens, 15 ones) (40 tens, 5 ones)
- $$\begin{array}{r} 405 \\ -236 \\ \hline \end{array}$$
34. How do we write this number using digits: 4 hundreds, 12 tens, 11 ones? (531) (441) (541)

35. Using digits which is the numeral for this number: 2 hundreds, 10 tens, 16 ones?  
(216) (326) (316)

36. Find this number in digits: 3 hundreds, 9 tens, 15 ones. (415) (405) (395)

37. Which is not a correct way to name 890? (a) 7 hundreds, 18 tens, 10 ones  
(b) 7 hundreds, 19 tens, 0 ones    (c) 80 tens, 9 ones    (a)-(b) (c)



# MATHEMATICS

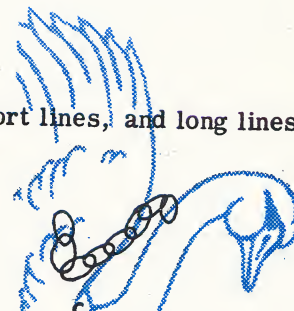
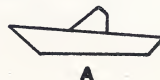
## Numbers series

Mn

11

1. There are many kinds of lines: straight lines, curved lines, short lines, and long lines. In this lesson we are going to study straight lines.

2. Which of these pictures contains only straight lines? (A) (B) (C)



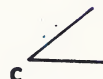
3. Straight lines can be used to make angles. If we put the straight lines on the left together like the ones on the right, we have made an angle. How many straight lines did we use? (1) (1/2) (2)



4. Which of these lines can we use to make an angle? (A) (B) (C)



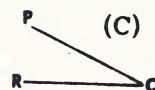
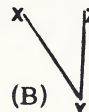
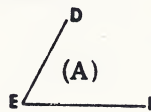
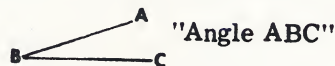
5. Angles are formed by two straight lines that meet in a point. If two lines do not touch each other, they do not form angles. Which of these lines forms an angle? (A) (B) (C)



6. What kind of lines are angles made from? (2 curved lines) (2 straight lines) (either)

7. If two lines form an angle, what must be true? (meet in a point) (curved) (both)

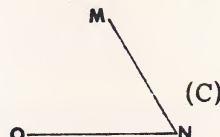
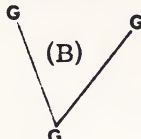
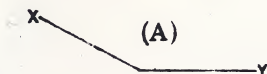
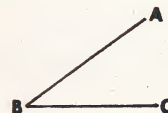
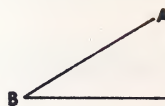
8. One way of naming angles is to use letters of the alphabet. This angle is named "Angle ABC". Which of these angles is Angle XYZ? (A) (B) (C)



9. In naming angles, three different letters are put at three different places on the angle. One letter is placed at the point where the two lines meet, labeled B here.

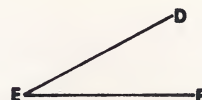


10. Another letter is placed at the end of one of the lines, here labeled A on the angle at the left. And a third letter is placed at the end of the other line labeled C at the right. Which of the angles at the bottom is correctly marked with letters? (A) (B) (C)

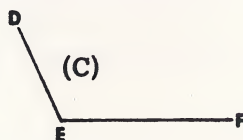
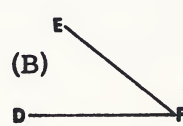
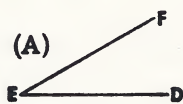


11. Complete this statement. "Angles are marked with \_\_\_\_\_ letters at \_\_\_\_\_ places." (3 different, 3 different) (the same, 3 different)

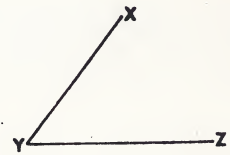
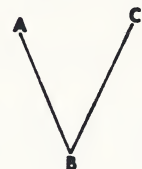
12. This angle has been marked with the letters D, E, and F. The letter E marks the point where the two lines meet. This letter is placed between the other two letters in the name Angle DEF.



13. In this angle, Y marks the point where the two lines meet and must go between the other two letters in the name, Angle XYZ. If we have an angle named Angle DEF, which of these angles has the E in the right place? (A) (B) (C)

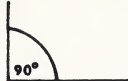


14. It does not matter which way you place the other letters in the name as long as the letter marking the point where the two lines meet is between the other two. This angle could be called either Angle ABC or Angle CBA. Both names are correct since B is still between the other two letters. Which name is correct for the bottom angle? (Angle XYZ) (both) (Angle ZYX)



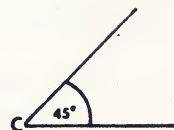


15. Angles are measured in degrees. This is a 90 degree angle. How many degrees does the bottom angle have? (55) (90)



16. Which of these is a 110 degree angle?

(A) (B) (C)



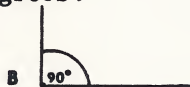
17. The number of degrees in an angle tells how big the angle is. The 90-degree angle is bigger than the 45-degree angle, and the 45-degree angle is bigger than the 20-degree angle. Which of the angles here is the biggest?

(A) (B) (C)



18. Which of these angles has the most degrees?

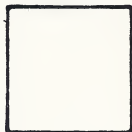
(A) (B) (C)



19. Finish this sentence correctly. "The more degrees an angle has \_\_\_\_\_." (the bigger the angle) (the smaller the angle) (the straighter the line)

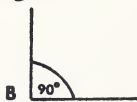
20. What are angles measured in? (degrees) (feet) (inches)

21. These angles are called right angles because they make square corners and contain 90 degrees. How many right angles are in this square? (4) (3) (2)



22. Which of these is a right angle?

(A) (B) (C)

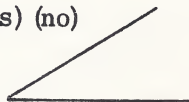


23. Do right angles make square corners? (yes) (no)

24. Do only right angles make square corners? (yes) (no)

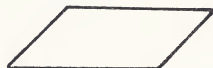
25. Which is correct? (right angles make square corners) (right angles contain 90 degrees) (both)

26. Is this a right angle? (yes) (no)



27. How many right angles are in this figure?

(0) (2) (4)

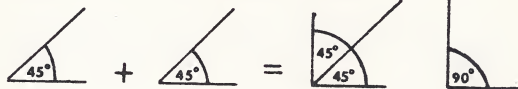


28. Angles measured in degrees can be added and subtracted just as feet or inches. 45 feet plus 45 feet equals 90 feet. 10 inches plus 10 inches equals 20 inches. So 45 degrees plus 45 degrees equals 90 degrees. And 180 degrees minus 50 degrees equals 130 degrees. What is the sum of these three angles: 45 degrees + 45 degrees + 90 degrees = ?

(180 degrees) (90 degrees) (100 degrees)

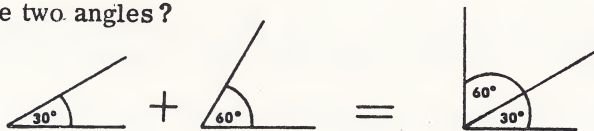
29. What is the sum of these two angles?  $35^\circ + 130^\circ = ?$  ( $70^\circ$ ) ( $95^\circ$ ) ( $165^\circ$ )

30. Here is another way of writing the sum of two or more angles. Let's combine two 45-degree angles. The sum is at the right. Take out the middle line and we have a 90-degree angle.

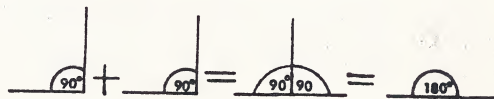


31. What is the sum of these two angles?

( $30^\circ$ ) ( $60^\circ$ ) ( $90^\circ$ )



32. Now let's add two 90-degree angles together. Take out the middle line and we have a 180-degree angle, or a straight line. It is called a straight angle. Which of these is a straight angle? (A) (B) (C)

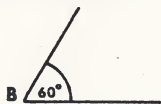


33. How many degrees does a straight angle contain? (180) (100) (90)

34. How many degrees in a right angle? (180) (45) (90)

35. Which of these angles is a straight angle?

(A) (B) (C)



36. Which angle looks like a straight line and contains 180 degrees? (right angle)  
(straight angle) (half angle)

37. Which of these is correct? (right angle contains 180 degrees) (straight angle contains  
90 degrees) (neither)

# MATHEMATICS

## Numbers series

Mn

12

1. By putting lines and angles together, we can make different shapes. Here are some examples of the different shapes, or figures, we will study in this lesson. Notice that all of these shapes are closed; that is, all of the lines are connected.

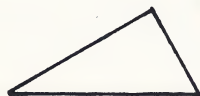


2. Which of these is a closed shape? (A) (B) (C)

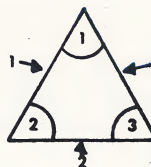


3. In closed shapes are all of the lines connected? (yes) (no)

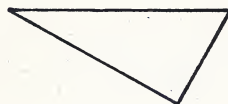
4. This is a triangle. Is it a closed shape? (yes) (no)



5. The sides and angles of this triangle are numbered. Are there three angles and two sides, one angle and one side, or three angles and three sides? (3 angles, 2 sides) (1 angle, 1 side) (3 angles, 3 sides)



6. How many sides does this triangle have? (3) (2) (1)



7. How many angles in this triangle? (1) (2) (3)

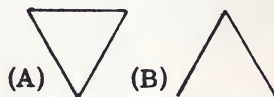


8. An easy way to remember that a triangle has three sides and three angles is to look at the word "TRIangle". The T-R-I in TRIangle means three angles. Just as in the word TRicycle, the T-R-I stands for three wheels. Which of these means three of something? (BI) (TRI) (BOTH)



9. Which of these is a closed shape with three sides and three angles? (square) (rectangle) (triangle)

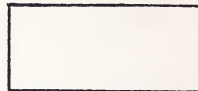
10. Which of these shapes is a triangle?  
(A) (B) (both)



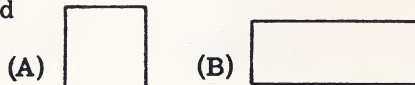
11. Squares and rectangles are also closed shapes, but have four sides and four angles. Count the angles and sides in the large square.



12. How many sides and angles does this rectangle have? (2 sides, 2 angles) (4 sides, 4 angles) (4 sides, 3 angles)



13. Which of these shapes has four sides and four angles? (A) (B) (both)

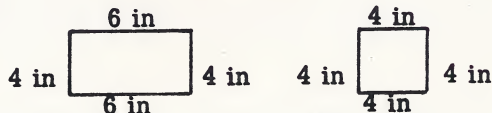


14. All of the angles in rectangles and squares are right angles. Do rectangles and squares have four right angles and four sides? (yes) (no)

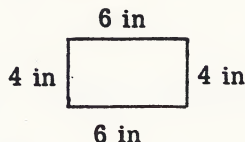
15. The four right angles in rectangles and squares make square corners. How many degrees do angles that make square corners contain? (45) (180) (90)

16. Are the angles in rectangles and squares equal to 90 degrees, are they right angles, or both? (equal to 90°) (right angle) (both)

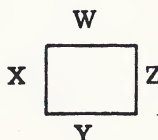
17. This rectangle and square have the lengths of their sides marked. All four sides of the square are equal. Are all sides of the rectangle equal? (yes) (no)



18. Only two sides of this rectangle are equal to four inches. What are the other two sides equal to? (2) (4) (6)



19. Which side is the same length as x in this rectangle? (w) (y) (z)

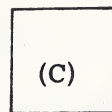
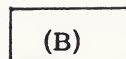
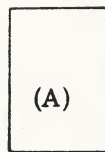




20. How many sides are equal in a square? (4) (2)

21. Which of these shapes has four equal sides?

(A) (B) (C)

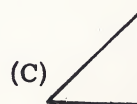
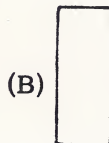
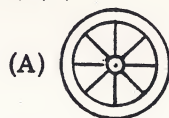
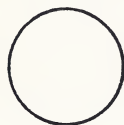


22. Which of these is correct? (in a rectangle the opposite sides are equal) (in a square all four sides are equal) (both)

23. Which pair of numbers correctly fills the blanks? "TRIANGLE: Closed Shape \_\_\_\_\_ sides, \_\_\_\_\_ angles." (4, 4) (3, 3)

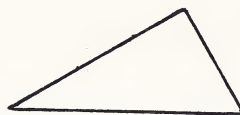
24. A square is a closed shape with how many right angles and how many sides? (4, 4 unequal) (4, 4 equal) (3, 3 equal)

25. This shape is a circle. Which of the shapes at the bottom is round like a circle? (A) (B) (C)

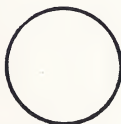


26. Which shape is round like a penny? (triangle) (circle) (rectangle)

27. What is this shape? (triangle) (square) (rectangle)



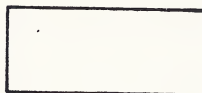
28. What is the name of this shape? (cube) (circle) (triangle)



29. Which shape is this? (rectangle) (cube) (square)



30. What is this shape called? (circle) (cube) (rectangle)



31. Which closed shape has four equal sides and four right angles? (triangle) (square) (rectangle)
32. Which closed shape has three sides and three angles? (square) (cube) (triangle)
33. What has a round shape like a nickel? (cube) (triangle) (circle)
34. Which angle contains 90 degrees? (straight angle) (right angle)

# MATHEMATICS

## Numbers series

# Mn

13

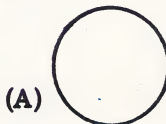
1. Here is a whole cookie. It is cut, or divided, into two parts. Below the cookie is a whole pie. Into how many parts is it cut, or divided ? (3) (5)



2. Into how many parts is this pie cut or divided ? (2) (6)



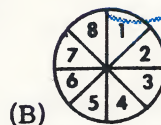
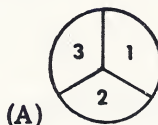
3. Which pie is divided into parts ? (A) (B)



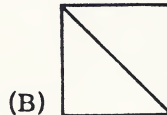
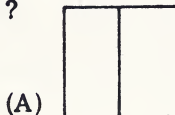
4. This square is divided into how many parts ? (2) (3) (4)



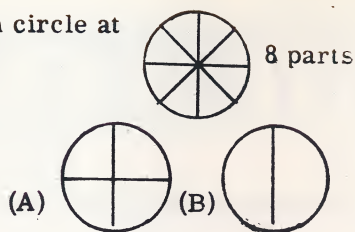
5. The four parts of this square have numbers in them. Which circle has three parts ? (A) (B)



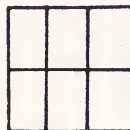
6. Which square is divided into two parts ? (A) (B) (both)



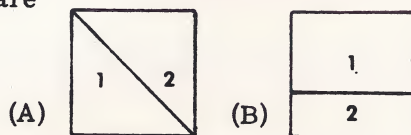
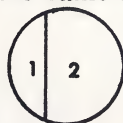
7. This circle is divided into 8 parts. Which circle at the bottom is divided into four parts? (A) (B)



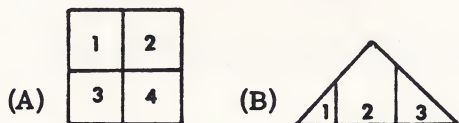
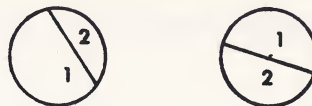
8. How many parts are there? (5) (6) (8)



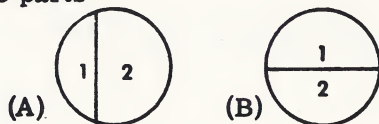
9. This pie is cut into two parts. You can see part one is not the same size as part two. Which square has parts that are not the same size? (A) (B)



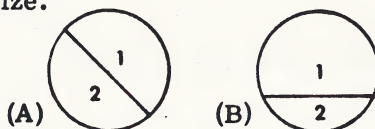
10. The circle on the left has parts that are not the same size. The parts of the circle on the right are the same size. Which figure at the bottom has parts that are all the same size? (A) (B)



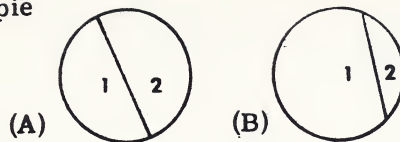
11. Which whole pie is cut or divided into two parts that are the same size? (A) (B)



12. Equal parts of a whole pie are the same size. Which pie has equal parts? (A) (B)

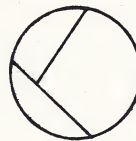


13. Unequal means not equal. Which whole pie is divided into unequal parts? (A) (B)

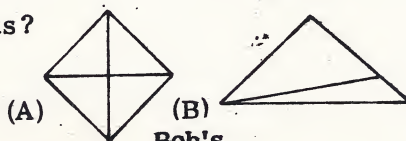


14. If you wanted to give your friend a piece of cake the same size as you have, would you divide the whole cake into equal or unequal parts? (equal) (unequal)

15. How would you describe the parts of this whole pie? (equal) (unequal)



16. Which is divided into equalized parts? (A) (B)



17. Bob and Bill cut their apples into two parts. Whose apple is cut into equal parts? (Bob's) (Bill's)



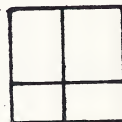
18. On the left the whole is divided into two equal parts. The whole on the right is divided into how many equal parts? (6) (8) (10)



19. The whole figure on the left is divided into two equal parts. The whole figure on the right is divided into how many equal parts? (2) (3) (5)



20. Which statement is true about this figure? (The whole is divided into equal parts) (The whole is divided into four parts)



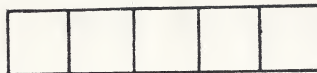
21. What do equal parts have? (same size) (same color)

22. Sue wanted to break her candy into two equal parts. Which picture shows equal parts? (A) (B)





23. Which statement is true about this figure?  
 (The whole is divided into four equal parts)  
 (All the parts are equal)

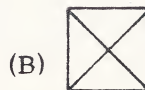
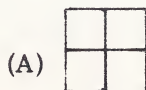


24. Here is a cake divided into two equal parts. We say the cake is divided into halves. A cake divided into halves has how many equal parts? (2) (3) (10)

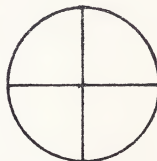


25. A whole divided into halves has how many equal parts? (3) (2) (4)
26. Two equal parts that make a whole are called what? (hafes) (halves) (halles)

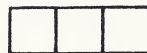
27. The whole at the top is divided into two equal parts. Which figure at the bottom shows four equal parts? (A) (B) (both)



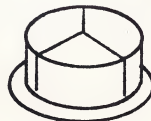
28. Here is a pie divided into four equal parts. We say the pie is divided into fourths. Then a whole divided into fourths has how many equal parts? (4) (10)



29. A whole divided into four equal parts is divided into what? (halves) (fourths)
30. Which is correct for four equal parts which make one whole? (forth) (fours) (fourths)
31. This pie is cut into three equal parts called thirds. How many equal parts does the figure at the bottom have? (2) (3) (4)



32. This cake is cut into three equal parts. What are the parts called? (halves) (thirds) (fourths)



33. This figure is divided into thirds. Are the three parts equal or unequal? (equal) (unequal)

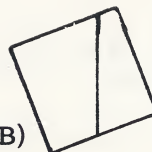


34. If we divide a whole into two unequal parts, the parts are not called halves. Which whole is not divided into halves? (A) (B)

(A)

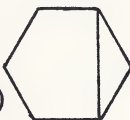


(B)

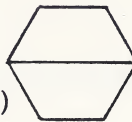


35. Which picture shows halves? (A) (B) (C)

(A)



(B)



(C)



36. If we divide a whole into four unequal parts, the parts are not called fourths. Which is not divided into fourths? (A) (B)

(A)



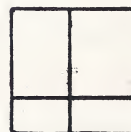
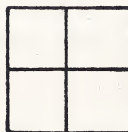
(B)



37. Which boy divided his paper into fourths? (Bill) (Bob)

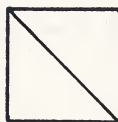
Bill

Bob



38. Which is divided into equal parts? (A) (B) (both)

(A)

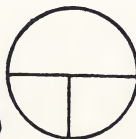


(B)



39. If we divide a whole into three unequal parts, the parts are not called thirds. Which pie is not divided into thirds? (A) (B) (both)

(A)



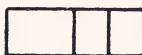
(B)



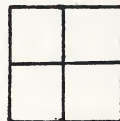
40. Which girl divided her candy into thirds? (Betty) (Susan)

Betty

Susan

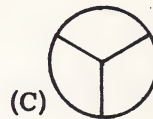
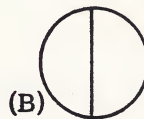
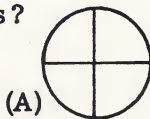


41. This square is divided into four equal parts.  
Then what is the square divided into? (fourths)  
(halves) (neither)

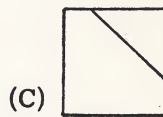
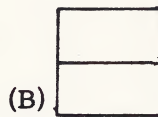
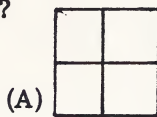


42. Sue cut, or divided, a cake into two equal parts. She cut the cake into what? (fifths)  
(halves) (fourths)

43. Which circle is divided into thirds?  
(A) (B) (C)



44. Which square is divided into halves?  
(A) (B) (C)



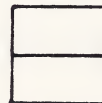
45. A cake divided into fourths is divided into how many equal parts? (2) (3) (4)

46. Which girl has divided her sheet into halves?  
(Mary) (Joan)

Mary



Joan



47. If a pie is divided into three equal parts, what are the parts called? (halves) (thirds)  
(fourths)

48. What are fourths? (2 equal parts) (3 equal parts) (4 equal parts)

49. Which is correct? (Halves are three equal parts of a whole) (Halves are two equal parts of a whole)

# MATHEMATICS

## Numbers series

# Mn

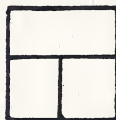
14

1. A whole, divided into halves, has two parts. Are the parts equal or unequal? (equal) (unequal)
2. A square is divided into two unequal parts. Are the parts halves? (yes) (no)
3. John cut a board into three equal parts. Did he cut the board into halves or thirds? (halves) (thirds)
4. A rectangle is divided into halves. Into what kind of parts is it divided? (2 unequal) (2 equal) (3 equal)

5. Which square is divided into equal parts?

(A) (B)

(A)



(B)



6. Which circle is divided into thirds?

(A) (B)

(A)



(B)



7. If a whole is divided into fourths, are the four parts equal or unequal? (equal) (unequal)

8. This figure is divided into how many equal parts?

(2) (4) (6)



9. Fourths are what kind of parts which make one whole? (2 equal) (4 unequal) (4 equal)

10. Which picture shows equal parts?

(A) (B) (both)

(A)



(B)





11. This figure is divided into how many equal parts? (5) (4) (3)



12. If a whole is divided into fifths, are the parts equal or unequal? (equal) (unequal)

13. Complete this sentence. "The whole is divided into \_\_\_\_." (4 equal parts) (fourths) (both)



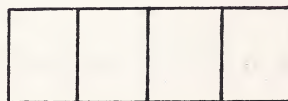
14. Five equal parts are called what? (fourths) (fifths) (halves)

15. A circle is divided into halves. How many equal parts does it have? (1) (2) (4)

16. How many parts are yellow? (1) (2) (3)



17. The whole rectangle is divided into equal parts. How many? (1) (2) (4)



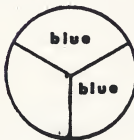
18. How many parts of this rectangle are orange? (2) (3) (4)



19. The whole circle is divided into how many equal parts? (2) (3) (4)



20. How many parts are blue? (1) (2) (3)



21. This square is divided into four equal parts. How many parts are yellow? (1) (2) (3)



22. In this square how many of the 4 equal parts are orange? (1) (2) (4)



23. This circle is divided into three equal parts. How many of the parts are green? (1) (2) (3)



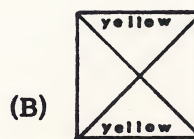
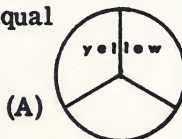
24. This circle is divided into 5 equal parts. How many are yellow? (1) (2) (4)



25. One of how many equal parts is orange? (1) (2) (4)



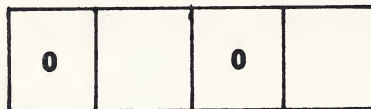
26. In which picture are two of the four equal parts yellow? (A) (B)



27. A triangle is divided into two equal parts. What are they called? (halves) (thirds) (fourths)

28. A whole square is divided into four equal parts. What are they called? (halves) (thirds) (fourths)

29. This rectangle is divided into fourths. How many fourths are orange? (1) (2) (3)

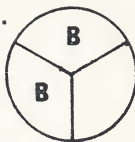


30. This square is divided into fourths. How many are green? (1) (2) (3)



31. A circle is divided into 3 equal parts. What are they called? (fourths) (thirds) (halves)

32. This circle is divided into thirds.  
How many are blue? (5) (1) (2)

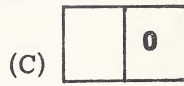


33. A whole circle is divided into five equal parts. What are they called? (fifths) (fourths)

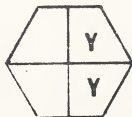
34. What word completes this statement?  
2 \_\_\_\_\_ are green. (fourths) (fifths) (halves)



35. In which picture is one third orange?  
(A) (B) (C)



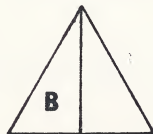
36. What two numbers fill the blanks?  
"\_\_\_\_ of \_\_\_\_ equal parts are yellow."  
(2, 4) (1, 5)



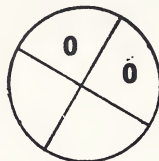
37. What two numbers complete this statement?  
"\_\_\_\_ of \_\_\_\_ equal parts are green." (1, 4) (1, 5)



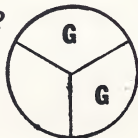
38. One what is blue? (whole) (half) (third)



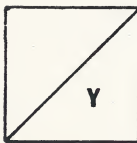
39. Two what are orange? (halves) (fifths)  
(fourths)



40. What part of this circle is green?  
(2 thirds) (2 fourths)



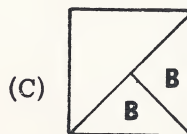
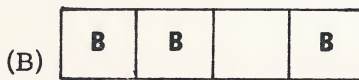
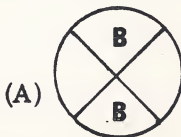
41. What part of this square is yellow?  
(1 third) (one-half) (1 fourth)



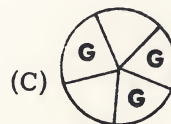
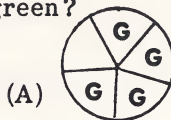
42. What part of this rectangle is orange?  
(2 fifths) (3 fourths) (3 fifths)



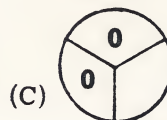
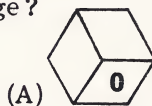
43. Which picture shows three-fourths are blue?  
(A) (B) (C)



44. Which picture shows 4-fifths are green?  
(A) (B) (C)



45. Which picture shows 2-thirds are orange?  
(A) (B) (C)





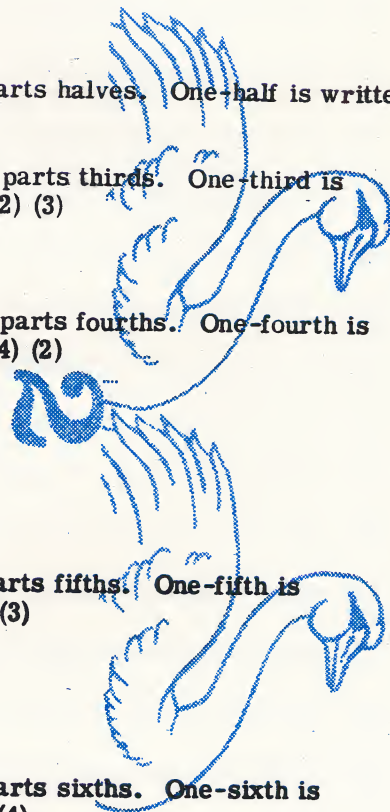
# MATHEMATICS

## Numbers series

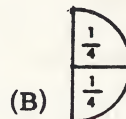
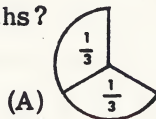
# Mn

15

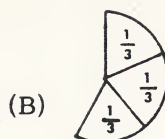
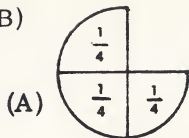
1. When we divide a circle into two equal parts we call the parts halves. One-half is written one over two. How many halves in one whole? (1) (2) (3)
2. When we divide a circle into three equal parts we call the parts thirds. One-third is written one over three. How many thirds in one whole? (1) (2) (3)
3. Which is larger? (one-half) (one-third)
4. When we divide a circle into four equal parts, we call the parts fourths. One-fourth is written one over four. How many fourths in one whole? (3) (4) (2)
5. Which is larger? (one-third) (one-fourth)
6. Which is smallest? (one-half) (one-third) (one-fourth)
7. How many fourths are equal to one-half? (1) (2) (3)
8. When we divide a circle into five equal parts we call the parts fifths. One-fifth is written one over five. How many fifths in one whole? (5) (4) (3)
9. Which is smallest? (one-third) (one-fourth) (one-fifth)
10. Which is largest? (one-half) (one-fifth) (one-third)
11. When we divide a circle into six equal parts we call the parts sixths. One-sixth is written one over six. How many sixths in one whole? (5) (6) (4)
12. Which is larger? (one-fourth) (one-sixth)
13. Which is smallest? (one-third) (one-fifth) (one-sixth)
14. How many sixths in one-half? (2) (3) (4)
15. How many sixths in one-third? (2) (3) (4)



16. When we divide a circle into eight equal parts, we call the parts, eighths. How many eighths in one whole? (4) (6) (8)
17. Which is larger? (one-sixth) (one-eighth)
18. Which is smaller? (one-fifth) (one-eighth)
19. Which is largest? (one-half) (one-fourth) (one-eighth)
20. How many eighths in one-half? (3) (4) (5)
21. How many eighths in one-fourth? (2) (3) (4)
22. Which of these fractions is largest?  $(1/5)$   $(1/3)$   $(1/2)$
23. Find the largest fraction. (one-sixth) (one-fourth) (one-eighth)
24. Which of these fractions is largest? (one-third) (one-fourth) (one-fifth)
25. Which of these fractions is smallest? (one-half) (one-fourth) (one-third)
26. Find the smallest fraction. (one-sixth) (one-fifth) (one-third)
27. Which of these fractions is smallest? (one-half) (one-fourth) (one-eighth)
28. What is the name for the fraction one over two? (one-half) (one-third) (two halves)
29. What do we call the fraction one over five? (one-fourth) (one-fifth) (one-third)
30. What is another way of writing one over eight? (two-eighths) (one-sixth) (one-eighth)
31. Which fraction is equal to one whole? (three-thirds) (three-fourths)
32. Which of these fractions is equal to one whole? (four-sixths) (five-fifths)
33. Find a fraction equal to one whole.  $(8/8)$   $(2/3)$   $(5/6)$
34. What is the name for the fraction two over four? (two-thirds) (2-fourths) (3-fourths)
35. Which picture shows the fraction two-fourths?  
(A) (B)



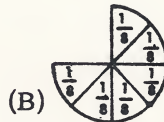
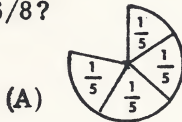
37. Find three-fifths. (A) (B)



38. Find the name for six over eight. (6-eighths) (6-tenths) (8-sixths)

39. Which picture shows this fraction:  $6/8$ ?

(A) (B)



40. Six eighths equals which of these fractions? (three-fourths) (two-thirds)

41. Which fraction is equal to one whole? (four-fifths) (six-sixths) (three-fourths)

42. Are these fractions arranged from largest to smallest or smallest to largest? (largest to smallest) (smallest to largest)

$1/8$ ,  $1/6$ ,  $1/5$ ,  $1/4$ ,  $1/3$ ,  $1/2$

43. How are these fractions arranged? (largest to smallest) (smallest to largest)

$1/2$ ,  $1/3$ ,  $1/4$ ,  $1/5$ ,  $1/6$ ,  $1/8$

44. Which fraction is equal to four-sixths? (three-fifths) (two-thirds)



# MATHEMATICS

## Numbers series

Mn

16

1. Two, seven, thirty-four, and one hundred sixty-five are all whole numbers. One over eight, three over seven and two over five are fractions. Which one of these numbers is a fraction? (23) (4/9) (87)

2. A fraction is one number over another number. Which one of these is not a fraction? (8) (5/8) (7/6)

3. Is four over six a whole number or a fraction? (whole number) (fraction)

4. How many circles are there?  
(3) (5) (7)



5. How many circles are yellow?  
(2) (3) (4)



6. We can say two out of five circles are yellow, and write two over five to express it. How would we express "three circles out of five are green"? (2/5) (5/3) (3/5)

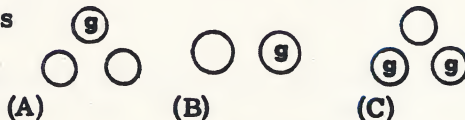
7. How would we express two out of three are white? (2, 3) (2/3) (3/2)

8. Which pair of numbers correctly fills the two blanks in this sentence? "\_\_\_ out of \_\_\_ are blue."  
(4, 6) (3, 6) (4, 5)



9. How do we express this as one number over another: 4 out of 6? (6/4) (5/6) (4/6)

10. Which group of circles correctly pictures one out of three is green, expressed by the fraction one over three is green? (A) (B) (C)



11. This rectangle is divided into equal parts. How many parts? (2) (4) (6)





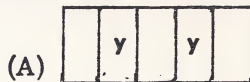
12. How many parts are yellow? (4) (3) (2)



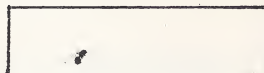
13. Which fraction says two out of the four parts are yellow?  $(\frac{2}{4})$   $(\frac{1}{4})$   $(\frac{4}{2})$

14. How would you express five out of nine parts are blue as a fraction?  $(\frac{3}{9})$   $(\frac{5}{9})$   $(\frac{9}{5})$

15. Here is a fraction: two over five. Which rectangle correctly pictures this fraction? (A) (B)



16. Some number over seven is our fraction. How many parts would you divide this rectangle into in order to picture this fraction? (4) (7) (11)



17. Which fraction says four out of seven are blue?  $(\frac{4}{7})$   $(\frac{7}{4})$   $(\frac{3}{7})$

18. Which fraction says three out of seven are red?  $(\frac{4}{7})$   $(\frac{7}{3})$   $(\frac{3}{7})$

19. We call the line that separates the two numbers of a fraction the fraction bar. Which letter corresponds to the fraction bar? (a) (b) (c)

$\frac{5}{8}$  a  
b  
c

20. Into how many parts have we divided this circle? (2) (3) (4)



21. How many of the parts are yellow? (2) (3) (4)



22. The fraction two over four says two out of four parts are yellow. Where is the number showing the total number of parts? (above the bar) (below the bar)

23. Where is the number showing how many of the four parts were yellow? (above the bar) (below the bar)

24. The number above the fraction bar is called the numerator. Which letter corresponds to the numerator? (a) (b) (c)

$$\frac{5}{8}$$

a  
b  
c

25. In these fractions,  $\frac{2}{5}$  and  $\frac{3}{4}$ , two and three are the numerators. Which is the numerator of the fraction  $\frac{5}{8}$ ? (5) (8)

26. Which pair of numbers are the numerators of  $\frac{4}{7}$  and  $\frac{8}{5}$ ? (4, 5) (4, 8) (7, 5)

27. The denominator is the number below the fraction bar. Which letter corresponds to the denominator? (a) (b) (c)

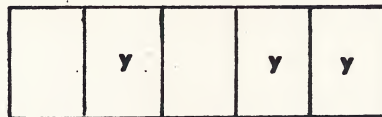
$$\frac{7}{9}$$

a  
b  
c

28. The denominators of these fractions,  $\frac{2}{3}$  and  $\frac{1}{4}$ , are three and four. Which is the denominator of the fraction  $\frac{6}{7}$ ? (7) (6)

29. Which pair of numbers are the denominators of these two fractions:  $\frac{4}{7}$ ,  $\frac{8}{5}$ ? (7, 5) (4, 8) (4, 5)

30. Think of the numbers that correctly fill the two blanks in this statement, then select the fraction that shows this. "\_\_\_\_ out of the \_\_\_\_ parts are yellow."  
( $\frac{2}{5}$ ) ( $\frac{3}{5}$ ) ( $\frac{5}{3}$ )



31. Where is the number showing the total number of parts? (in the numerator) (in the denominator)

32. Where is the number showing the number of parts that were yellow? (in the numerator) (in the denominator)

33. In these fractions, four, seven, and three are called what:  $\frac{4}{9}$ ,  $\frac{7}{11}$ ,  $\frac{3}{2}$ ? (numerators) (denominators)

34. In these fractions, four and ten are called what:  $\frac{7}{4}$ ,  $\frac{9}{10}$ ? (numerators) (denominators)

35. This circle is divided into 6 equal parts. In the fraction that shows this, six is what? (numerator) (denominator)

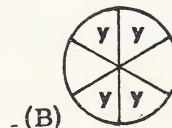
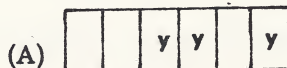


36. Two of the six parts are red. In the fraction that shows two out of six parts are red, what is two? (numerator) (denominator)



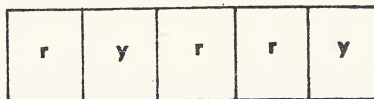
37. We have a fraction with the numerator four and the denominator six. Which picture shows this?

(A) (B)

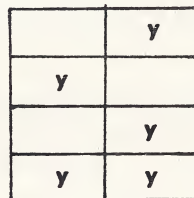


38. When a whole is divided into two equal parts we call the parts halves. When a whole is divided into three equal parts we call the parts thirds. And four equal parts are called fourths. What are five equal parts called? (fifths) (sixths)

39. When two of the parts are yellow, we say two fifths are yellow. What can we say about the parts that are red? (three-sixths are red) (three-fifths are red)



40. Here is a square divided into equal parts. What is yellow? (five-eighths) (three-sevenths)



41. If six is the numerator and nine is the denominator of a fraction, what do we call it? (six ninths) (nine sixths)

42. Part of this circle is red. What part? (2 sixths) (3 fifths) (4 sixths)



43. You know the numbers at the top are whole numbers, and the numbers next are fractions. Eight and four-fifths and sixty-nine and three eighths are called mixed numbers. A mixed number includes both a whole number and a fraction.

8 49 72 143

$\frac{3}{8}$   $\frac{9}{2}$   $\frac{4}{5}$

$8\frac{4}{5}$   $69\frac{3}{8}$

44. Here is a mixed number:  $3\frac{5}{9}$ . Three is the whole number. What is the fraction?  
(5/9) (35/9)
45. Which one of these is a mixed number? (87) ( $42\frac{1}{5}$ ) ( $\frac{32}{10}$ )
46. This mixed number,  $5\frac{3}{4}$ , is read five and three-fourths. Do you read this mixed number,  $11\frac{2}{3}$ , eleven and two-thirds? (yes) (no)
47. Which mixed number is read twenty-seven and one-half? ( $\frac{27}{2}$ ) ( $27\frac{1}{2}$ ) ( $2\frac{7}{2}$ )
48. What are the numerators of these fractions?  $\frac{4}{11}$ ,  $\frac{6}{7}$ ,  $\frac{9}{2}$ . (4, 6, 9) (11, 7, 2)
49. What are the denominators of these fractions:  $\frac{5}{9}$ ,  $\frac{7}{3}$ ,  $\frac{4}{10}$ ? (5, 7, 4) (9, 3, 10)
50. Suppose seven out of nine parts are green. We can express this as a fraction with seven in the numerator above the fraction bar and nine in the denominator below the fraction bar. Do we call this fraction seven-ninths? (yes) (no)
51. Which fraction shows five-twelfths of this rectangle

r		r		r	
	r		r		